CONCEPT OF GRAVITY

by Steve Harris Hubbard

Why Einstein Is Still Right But For The Wrong Reason

Title, Emphasis and Editing by the author.

References to various scientific theories, papers, conjectures, quotes and their authors presented in this book were based upon public news articles. None of the scientists mentioned have reviewed nor endorsed how they have been characterized within this book. Any misquotes or mischaracterizations made by the author are entirely accidental and will be corrected as soon as possible after being notified of error via the number listed above.

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TITLE AND SYNOPSIS

CONCEPT OF GRAVITY

by Steve Harris Hubbard

Why Einstein Is Still Right But For The Wrong Reason

This book presents Steve Harris Hubbard's Concept Of Gravity in its entirety. It is presented using only words and does not require any math abilities to understand.

Synopsis:
This Concept Of Gravity explains that what we currently call gravity does not work by attraction. Instead, this new Concept Of Gravity shows that it works via energy-pressure differences in the quantum field underlying our Universe. The quantum field that creates and sustains every thing we see around us is called the Twistor Field that is definable by string-theory maths. It is constantly trying to achieve energy-pressure equilibrium.

The Twistor Field effectively "pushes" things together because of changing energy-pressures within itself. The energy-pressure based gravity effects are best described by maths similar to those describing fluid dynamics.

Energy-pressure gravity still looks and acts the same as attraction-gravity at our human level, and Einstein's Relativity maths can still give correct energy-pressure based answers (up to our solar system size) because his equation's pressure components are just the opposite side of his attraction components.

GLOSSARY

In this book you will read about many features described by quantum theories. To grasp the general idea behind this Concept Of Gravity you will need to know some details about two categories of the Quantum Mechanics Standard Model:

Fermions = Quarks
Fermions are what makes up the atoms of the Earth and our bodies. Quarks are the smallest pieces of these Fermions. Quarks are at the center of all atoms of matter from humans to stars.

Bosons = Gluons and Photons
Bosons are carriers that deliver energy to every process in our Universe. Gluons are the specific Bosons who deliver the power needed to hold the Fermions' Quarks together in our atoms. Photons are the ultimate long distance deliverer of energy between masses. Boson particles have no mass inherent to them, and as a result, they always move at the maximum speed allowable: the speed of light unless traveling though a medium that slows them.

You should also note that Gravitational Waves are also energy carriers but are not particles like the Bosons. Gravity Waves carry the fundamental quantum force of

the Universe that is itself the “medium” that manifests all other mass related energy fields.

This means that Gravity Waves always travel at the “speed of light”, no matter where they travel, because they are the pure manifestations of the Quantum Field energy described in this book.

Therefore, the term speed-of-light should be replaced with the more accurate term speed-of-gravity-waves as explained later along with the related “time travel” discussion in the Speed Of Gravity Waves Versus Time Travel chapter.

The old terms, speed of light and time, will be used here for consistency.

INTRODUCTION

Albert Einstein's Relativity Theory is an incredibly complex and detailed mathematical creation. It is considered a language of math that stands alone and has had an historically large impact on other scientific theories for over a century. It speaks about the complexities of the cosmos by creating an entire model universe made from a piece of whole cloth that Einstein wove himself. He did it that way because he had to. When he created his masterpiece over a century ago, no one knew what atoms were made of. The quantum sizing of our reality at the infinitesimally small Plank Scale and the confounding uncertainties of our quantum based reality was not known when Einstein was a young theorist. He was forced to imagine a universe that could respond to his vision. So, he created what he called space-time.

Over the century since Einstein published his theory, we have learned a lot. We now know that the Quantum Mechanics Theory's Standard Model perfectly describes all of the particles that make up *every thing.* We also have discovered that the Quantum Field Theory can describe how vibrations of energy can manifest into those particles. And currently, physicists and mathematicians are working on String Theory Maths that should be able to model all of it by starting with only pure energy.

The Concept presented here acknowledges Einstein while pointing out that his fictional space-time should be replaced by a Quantum Field that is described by String Theory maths.

To do this we need to master interpreting the languages of maths. Currently, we can speak using either the Einstein Maths Language or the Quantum Maths Language. But, we can not speak both of them at the same time with a single tongue. Without using mathematical symbols, this book presents a path for us to be able to translate the Quantum Language so it can speak Einstein too.

This is a challenge indeed. A quote by Ethan Siegel helps to lay out how hard it is to challenge an old theory:
"You must, with your new theory, reproduce all of the pre-existing successes of the old theory. You must, as motivation for your new theory, successfully explain something that the prevailing theory either fails to explain or is agnostic about (i.e., has no explanation for). And then, as the critical test, your new theory must make novel predictions about a yet-unmeasured phenomenon that differ from the prevailing theory's predictions, and then you must go out and make those critical measurements."
This Concept is not a formal theory because it does not present a formulaic proof and has not made experimental measurements that are required to prove a new theory.

To actually prove it will require a multitude of physicists, mathematicians and experimentalists to work on this, possibly for many years. Instead, this Concept describes a new way to look at gravity and explains why it should be used as a framework on which to study, experiment and ultimately prove that the basis of our reality is indeed a Quantum Field and not fictional space-time.

At its heart, this Concept Of Gravity posits that what we currently call gravity doesn't actually work by attraction. It works via energy-pressure differences.

The quantum field that creates and sustains *everything* we see around us is called the Twistor Field. It effectively "pushes" things together because of changing energy pressures within the Field itself as it strives to achieve equilibrium. This energy-pressure based gravity is best described by maths similar to those describing fluid dynamics.

Energy-pressure gravity still looks and acts the same as attraction gravity at our human level and Einstein's Relativity maths can still give approximately correct energy-pressure answers up to about the the size of our Solar System.

Relativity calculates pressure based changes in its space/time equally as well as attraction based changes because

the equation's pressure components are just the opposite side of its attraction components. This is explained in more detail later.

To repeat, this Concept Of Gravity does not offer a formal scientific theory with mathematical proof. It is offered as a conceptual framework, or conjecture, to inspire skilled physicists and mathematicians to develop formal theories proving it. It employs a brutal application of logic.

PREFACE AND PREMISS

A recurring pattern of scientific news has pointed out that a century of research has not discovered gravitons. Research also has not proved that gravity is an attraction-force nor discovered dark matter nor proved a mechanism behind proposed dark energy effects nor produced an accurate cosmology model. Additionally, how is it that Standard Model quantum mechanical forces require calculating energy contributions from unknown sources without questioning where that energy comes from?

This Concept's brutal application of logic is rooted in the realization that Space-Time does not actively or actually, unto or by itself, *do* a single thing to create, modify or destroy *anything* in our reality. Space and Time are not real. Space, Time and attraction-gravity are merely placeholders that have stood in for things unknown or undiscovered.

Our species of life on Earth was allowed to come into existence because of oxygen generation caused by the quantum-jump-based photosynthesis effect when the Gluon's cousin, called a Photon of light, hit the leaf of a plant. That photon interacted with countless quantum bits of energy while it travel to the Earth. Space and Time though, did not *do* a single thing to that photon.

Each and every quantum interaction that photon experienced while traveling to the earth was a separate event unswayed, caused or affected by either time or space. So, how “old” the photon was (Time), or how many “frequent flyer miles” it accumulated (Space), are fictional terms we are led to discuss if we are forced into using classical space/time/Relativity calculations. Instead, we must start using only quantum field theory based maths. The total time or space traveled before our photon triggered oxygen producing photosynthesis in our plant’s leaf only provides useful *estimations* on the aggregate for our consideration and discussion.

This Concept suggests logical replacements for these incomplete concepts along with answering many related experimental questions.

An example of how we can describe our reality without those fictional space/time like concepts is provided by Nima Arkani-Hamed’s Amplituhedron. It is a geometric creation proposing a method of calculating quantum particle physics outcomes of smashing particles together without using relativity maths. The Amplituhedron is based upon the assumption that space, time, locality and unitary concepts are emergent or fictional, not basic, or required to quantify-the-quanta that is the basis of our reality. Its development was inspired by the Twistor Theory written in the 1960s by Sir Roger Penrose and further developed by his associate Andrew Hodges.

The Twistor Theory describes how primordial quantum level pure energy is transmitted by left and right handed tornado like energy vortexes called spinors. Twistors were integral to the Amplituhedron's creation and are the heart of this Concept.

Logically then, space/time is not required to formally define the basis of our reality and classical maths should not be used to do it. So, if not space-time or gravitons, then what is acting like attraction gravity?

This Concept's prime example is that quarks, that make up all of our atoms' centers, have boson-force-carriers called gluons "holding them together". Gluons are mathematically described as being able to access a seemingly unlimited amount of energy on demand as needed. This energy is formally called the Strong Force. This energy is provided, on demand, to counter forces trying to separate the quarks. On the question of how the gluons get this energy, Einstein is mute. He did not address anything using quantum-related theories and maths because they had yet to be created when he formulated his theory. Notably, all current quantum-based theories still do not give an answer yet either, even though they appear to have the capacity to do so.

It is important to note that the Strong Force is the strongest of the basic forces of nature. It is hundreds of trillion times stronger than the force of gravity!

So, where does this energy come from? How does the energy get to the gluons in the atom's nucleus? How does whatever warehouse of energy that supplies them get replenished itself? How does each and every quark at the center of each and every atom have instant gluon energy access, on demand, to this energy *continuously?* It has to come from somewhere, somehow, in the form of something, doesn't it?

This Concept Of Gravity employs Penrose-Hodges primordial energy Twistors to answer these questions. These Twistors supported by a universe-wide, string-theory-described quantum-energy Twistor Field is offered by this Concept as the logical answer. The quantum-energy-based Twistor Field both creates and continuously sustains all forces and things throughout our Universe.

The energy of the Twistor Field embodies communal, supportive and additive features where local variability, like entanglement, aggregates into regional energy fluctuations culminating in universe-wide fluid-dynamics-like impacts.

The implications of *every thing* having to access outside energy, *continuously*, provide the basis for this Concept

Of Gravity's energy-pressure gravity along with its quantum entanglement and cosmology descriptions.

Therefore, this Concept's starting premiss is that previous concepts of attraction gravity, space, time, singularities, wormholes, multiverses, space-warps, gravitons, time sprites, space-keepers, dark matter, dark energy and their ilk are fictional or, at best, emergent concepts. Their supporting classical formulae can not be used in quantum based formulae to *formally* describe the basis of our quantum reality. However, these classical maths may remain in use for quite a while. Why all of this this is so is explained later.

BASIC CONCEPT

Energy/mass is manifested in our Universe by what this Concept of Gravity calls a Twistor. Twistors embody, control and direct all of the energy in our Universe in quanta. Twistors can manifest into not just anything, but rather *every thing*. This includes all particles and force carriers, quasi or otherwise, and every state of matter. Twistors are contiguous throughout the Universe and are part of an interacting Field, the Twistor Field. The Field's density is not static at any location. Ripples, surges and all other forms of fluid dynamics definable interactions occur because the Twistor Field manifests *all* universe-wide features including gravitational waves, electromagnetism and apparent local mass attraction being just three examples. Notably, the Twistor Field also creates and sustains the particle/field identified and referred to as the Higgs Field that "causes" particles to acquire mass energy.

Gluons supporting Quarks at the center of all atoms is our prime example as mentioned earlier. This Concept's new frontier of quantum science starts where quarks, that make up all of our atoms' centers, have force carriers called gluons holding them together. The importance of this issue needs more explanation detail before moving on.

In their groundbreaking quantum chromodynamics "couplings" research, Alexandre Deur, Stanley J. Brodsky and Craig D. Roberts described this dense energetic place called the nucleus of atom:
"….most of the mass of atoms is in their protons and neutrons (electrons are relatively light). But where does proton and neutron mass come from? The quarks that constitute them also have very little mass of their own. But at the scale of a proton, our revelations about αs suggest that quarks gather clouds of gluons around them that generate much of the mass of the proton. In essence, the powerful binding energy that the strong force exerts to bind quarks together contributes almost all of the mass (remember, Albert Einstein revealed that energy and mass are two sides of the same coin). Therefore, if you weigh 160 pounds, then more than 158 of them come from quantum chromodynamics…."
So, it should come as no surprise that this Concept posits that a very large and variable number of Twistors are required to fulfill all of the gluons' need for continuous energy supply on demand.

This requires multitudes of surrounding Twistors to share the load by giving their support to meet the changing local-mass atomic nucleus's quark energy needs. And importantly, that energy needs to be delivered directly into the center of each and every atom.

As energy demands become more localized and dense, this communal effort extends to committing Twistors well beyond the local-mass related area. In dense masses, this call to action can involve Twistors contributing for great distances resulting in planetary orbit effects as a major by-product.

The energy flow near the local-mass diminishes with distance from that mass. More distant Twistors may still be turned and directing energy towards the local-mass even if only by slight and variable amounts. Ultimately, these cumulative interactions within multiple local-mass variable Twistor Field areas result in expansions and contractions creating pressure changes that affect the field all the way up to and past intergalactic influences to universe-wide effects.

Twistors create the short lived particles in empty space as well as supporting the longer lived atomic structures we call matter. In order to maintain their existence, literally everything uses energy provided by the Twistor Field continuously including bosons, fermions and quasi-particles alike.

Therefore a continuous supply of energy provided by the Twistor Field that suffuses the entire Universe is required for our reality to be actualized and sustained requiring the Twistor Field to remain contiguous as masses traverse within its background.

Mass is supplied a continuous supply of energy from Twistors in its path by bow-wave collection. After passage of a traveling mass, the Field returns to a relatively undisturbed state except for some eddy-dragging effects.

A comparison of a deep-space example versus one in a local-mass area shows that the Twistor Field is a near perfectly smooth energy-availability-field in open deep-space. Masses traveling through this uniform energy-pressure area have their energy budgets fulfilled without favoring any particular directional vector.

Locally, lower energy availability from Twistors surrounding a mass makes it a relatively lower energy pressure area. A mass traveling through this local area is affected by this and this explains planetary orbit effects. The traveling-mass is able to access less overall energy from the Twistors closer to the local-mass and the traveller finds the energy availability even less per unit of “space” as it moves toward the local mass. To maintain its prior straight-line velocity, the traveling-mass has to accelerate in order to obtain its needed energy from this energy-desert area or accept that they remain trapped at the speed in orbit around the local-mass dictated by what they require to fulfill their Twistor energy needs.

A fictional case of two adjacent planets created with no acceleration relative to each other explains what we

currently call attraction-gravity. Each planet will appear to accelerate through the energy-desert existing between them in an attempt to sustain their needed energy within that lower pressure desert they find between themselves.

The mere availability of Twistor energy offered by outside Twistors do not overcome the lack of energy between the planets. Twistors do not pull. The aggregate of multitudes of Twistors outside of the area between the masses is an energy field that is at a higher energy-pressure than the energy desert between the bodies.

Fluid dynamics is the more relevant language to describe the interaction. Fluid dynamics dictates that equilibrium is always the preferred state so the more stable energy field configuration is realized when the two bodies are “pushed” through the energy desert to combine (collide).

The subject of equilibrium or how things should, or must, fall into disorder has been debated for decades. Referred to generically as MBL, many physicists like Phil Anderson in the 1950s, continuing up to De Roeck, Huveneers and collaborators more recently, produced a series of papers that seemed to promise the existence of quantum states that would *never* fall into disorder. However, they then trended to admitting that the pull of disorder may not be so easily overcome by laying out a case for a process known as an avalanche.

This Concept Of Gravity prescribes such an avalanche. No *thing* ever exists without the Twistor Field's energy support. As soon as any single something, or any of its neighbors, no matter how classically separated they are, require even a few quanta of energy support, the Twistors that supply it influence its neighbors via a cascading chain reaction of other local Twistors. As this energy support comes into play, the neighboring particles supposedly isolated are literally awash in energy flowing nearby. No *thing* is forever isolated.

The related subject of the speed of light is also dictated by the Twistor Field's ability to sustain the existence of all manifestations of reality from photons to gravity waves along with all mass particles.

Gravity waves are the heavyweight champion of force transmission and are the pure manifestations of the Quantum Twistor Field's energy. They move literally at what is currently called the speed of light, exactly. In fact, it is more accurate to call the speed of light the speed-of-gravity-waves and this should replace the old term in time.

Since perfect equilibrium is never achievable by anything, everything in our Universe must always "feed" continuously at the same "trough" and obey the same speed limit.

When traveling over cosmological scale distances, especially during the origin story of the Twistor Field being created from pure energy, this speed limit has varied as the Twistor Field's energy pressures have varied. This is explained later in the Cosmology chapter.

How quark gluons have a nearly unlimited energy budget made available to them may be this Concept Of Gravity's prime example of how it works, but is only one example of the many communal, supportive and additive features of the Twistor Field. This Concept Of Gravity also explains or embodies many other famous well-known effects and experimental results.

Some of these include the Casimir Effect, the Fulling-Davies-Unruh effect, the two-slit experiment's bow-wave, LIGO gravity wave medium, quantum entanglement, short lived three generations of matter Hierarchy Problem, Quark Propagating Jets, the Quantum Cheshire Cat Experiment and the Druck Term. These items and many others are discussed later.

[Author's fourth edition note: The Fourth Edition Addition chapter is near the end of this book. I suggest that you read that chapter, out of order, at any time that you feel confused or otherwise challenged to understand the implications of this new Concept Of Gravity. Versions of the real-world explanations given in that chapter should have been presented earlier in this book's first edition.

After reading that chapter, you should be able to return to where you left off and continue reading with more comprehension.]

QUANTUM ENTANGLEMENT

When two entangled things (particles etc.) separate, they can mutually provide each other with some portion of their reality sustaining energy needs via an inter-connecting energy thread between them. So long as neither thing substantially interacts with anything else as they travel apart, even at the speed of light, they remain interdependent in sustaining their reality with some portion of their Twistor resupply needs provided from that reciprocal direction. The energy thread between entangled things can be described as the directional opposite of their bow wave harvesting Twistor support. While large masses leave an incoherent, jumbled eddy behind them as they traverse the Twistor Field, small entangled things' trailing energy-thread-harmonics can remain smooth and coherent until disrupted.

When either partner is forced to evolve/devolve by interacting with other things, that interconnecting energy thread is broken and causes decoherence. This forces both partners to evolve/devolve separately to open themselves up to interactions with Twistors local to themselves at that time. After their shared energy thread is broken, they then have to find all of their Twistor energy resupply locally to replace the portion of support previously being fulfilled via their mutual connection.

The particles then become untangled, separate entities exhibiting the statistical probabilities predicted by the Bell Theorem's entanglement decoherence curve.

This interconnecting energy thread does not prescribe a hypothetical, classical, wormhole-style connection where communication can somehow travel faster than the speed of light. As the entangled pair moved apart, nothing happened faster than light speed. When they evolved/devolved in their new localities, they did not instantly communicate via their mutual harmonic thread or in any other manner.

Rather, they *quit* "communicating" when the energy thread severed and that triggered instant decoherence.

Functionally, the interconnected harmonic threads are in resonance with the Field and should maintain their potency indefinitely. However, the dissonance of the things and their harmonic threads due to interactions with other quanta en route and the harmonic variability due to the Field's universe wide field energy variation would severely limit anything approaching universe-wide harmonic thread lengths. This further defines Twistor Field harmonics interactions and complexity statistics.

Adrien Florio's Quark Propagating Jets experiment mirrors this Concept's entanglement descriptions when at maximum entanglement. Florio's model describes quarks

being connected by energetic bands of energy that appear to be multiple gluons' worth of energy. He does not explain where this substantial amount of energy comes from, on demand, to counteract any amount of force trying to separate the quarks. This Concept provides the answer.

Descriptions of these real, powerful and unexplained energies churning inside atoms were explored by writer Charlie Wood who offered an article about Latifa Elouadrhiri and Peter Schweitzer's research on quark/gluon/gravity: They asked:
"*How are matter and energy distributed?….We don't know.*"
They study the gravitational side of the proton and specifically, the energy-momentum tensor. They referred to the Druck Term, after the word for pressure in German. This term is:
"*as important as mass and spin, and nobody knows what it is*".
Jefferson Lab physicists extracted the elusive Druck term and estimated that the internal pressures at the heart of the proton where the strong force generates pressures is about ten times that at the heart of a neutron star. Farther out from the center, the pressure falls and eventually turns inward, as it must for the proton not to blow itself apart. They did not say where all that energy comes from. They continued:

“New maps may also offer guidance toward resolving one of the deepest mysteries of the proton: why quarks bind themselves into protons at all. There’s an intuitive argument that because the strong force between each pair of quarks intensifies as they get further apart, like an elastic band, quarks can never escape from their comrades. But protons are made from the lightest members of the quark family. And lightweight quarks can also be thought of as lengthy waves extending beyond the proton’s surface. This picture suggests that the binding of the proton may come about not through the internal pulling of elastic bands but through some external interaction between these wavy, drawn-out quarks. The pressure map shows the attraction of the strong force extending all the way out to 1.4 femtometers and beyond, bolstering the argument for such alternative theories.”
This Concept Of Gravity is a framework in which such alternate theories can be developed. The elastic-bands they refer to are emergent maximum-entanglement artifacts and the energy to empower them is indeed flowing in from Twistors outside of the old model’s radius.

BLACK HOLES

The special case of a black hole is explained by realizing that, at the event horizon, no more energy is left available to outside things because, from the horizon inward, Twistors supporting mass are one-hundred percent committed inward to support the black hole's interior mass. A black hole sized mass exceeds the limits of support the "fabric" of the Twistor Field can supply.

At the horizon, the Twistor Field is functionally torn as it relates to supporting the continued existence of mass objects, but is not actually/physically rent asunder. The horizon area can be thought of in super-fluid terms. It is a zone where the Twistor Field has no specific directional influence or intent to interact. A traveling mass can still make a traverse inside a black hole horizon by having sufficient velocity prior or by accelerating inside the horizon with a force equal to the percentage of energy lost by the Twistor energy it now finds unavailable to it.

A black hole contains a density of energy consisting of all mass-related fermion/boson forces required to create and sustain the outside mass prior to it being absorbed into the black hole. The background-energy of the Twistor Field does contract inside, and becomes stretched outside of the horizon, making it a contributor to the black hole mass/energy calculations of in-versus-out.

Importantly, galaxy rotations and universe-wide effects are actualized by these background contractions and rotational torques. The mass involved inside a black hole does not create a singularity.

Twistor Field interactions with a black hole manifest what is currently referred to as black hole time-dimension-frame-dragging. This is the Field's evolving response to the energy requests from masses within a rapidly spinning event horizon. There is also a vortex of the Twistor Field above and below a spinning black hole currently referred to as the galactic-bulge.

The Twistor Field also supports the magnetic forces swirling around a black hole. Galactic orbital spin dynamics are partially explained by these interactions and universe-wide Field pressures ultimately are affected. This is because the Twistor Field embodies all particles and forces and reflects those other forces/fields existence via changes within itself. Variations of energy pressures like these is what must be calculated to describe our Universe's cosmology. This is described in more detail later.

The related white-hole concept is also explained by the Twistor Field even though Twistors themselves never suck energy. It is the Twistor Field background's multidimensional harmonic oscillations that perform as the ubiquitous receptor for reclaiming unfocused energy

released from all quantum processes. The Field's background is figuratively the negative to the Twistors' positive.

CLASSICAL MATHS CONTINUED RELEVANCE

In this Concept, the available energy-pressure of the Twistor Field increases by going up away from feeding masses and decreases by going down closer. This is because of fluid dynamics effects similar to how the Venturi Effect reduces available pressures. This means that energy must be paid to climb out away from a mass.

However, in the same situation, classical Relativity describes a place far away from any gravity-well as having zero potential attraction gravity energy. Relativity then posits that gravity energy must become negative descending into a gravity-well.

Relativity also suggests that being in a gravity-well causes an object to have less total energy than an object not in a gravity-well. None of this is logical when compared to this Concept Of Gravity's description of reality other than it too demands that energy must be paid to climb out of that gravity-well.

So, with this being noted, why are Relativity's classical maths still relevant to future development of purely quantum theories based upon this Concept Of Gravity? Einstein's E=MC2 alone is reason enough since it

provides the origin story on which to base the Concept Of Gravity itself.

But, the reason specific to this Concept is that, in the Relativity formula's left-side-equals-right-side framework, the stress-energy tensor (pressure) and the Einstein tensor (attraction) are on teams balanced against each other. Therefore, Relativity appears to calculate the effects of this Concepts's energy-pressure based substitute for attraction gravity as well as it calculates its attraction based paradigm because they are just two sides of the Relativity Coin. Einstein is still right but for the wrong reason.

If one improves Relativity's maths by including quantum-scale inputs per Jonathan Oppenheim's maths, and refocuses on its pressure side, one should be able to calculate the effects of this Concept's fluid-dynamics-like pressure differentials quite accurately up to the size of our solar system. These calculations then can be used to judge competing string theory formulae maths efficacies. This is why classical will remain relevant for some time.

Luboš Motl's commentary on Einstein's Relativity may help to explain this Concept's position:
"The left hand side is the Einstein tensor and the right hand side is proportional to the stress energy tensor. For low velocities, the dominant component of the equation is the Poisson equation for Newton's gravity, which implies

all the inverse squared distance law, and so on. However, in relativity, the energy is just 1 component of a 4-vector, the energy-momentum vector, and the density of anything is just one (the time-like) of 4 components of a vector which also includes the flux as the 3 spatial component. In particular, the mass or energy density becomes just the component of a whole symmetric tensor that has components in four dimensions. Relativity implies that all of them are equally important because they can transform into each other by the Lorentz transformations. In particular, the pressure appears as the doubly spatial components of the stress-energy tensor. For solids, this pressure is why the tensor contains the word stress - stress is a kind of pressure. For all materials, you may imagine that the pressure is why a gas or liquid will push a wall behind it. In relativity, all these components of the stress-energy tensor have to contribute to the corresponding components of the Einstein tensor. Now I may return to the cosmological constant term. It is effectively the same thing as a stress energy tensor with a negative pressure: you could put it on the right-hand side. Such a form of uniform matter density with a negative pressure deforms the Minkowski space into de Sitter space that is still maximally symmetric: dust with no pressure wouldn't be able to do so. I am convinced that any valid - however qualitative - explanation why pressure curves the spacetime in general relativity has to boil down to Einstein's equations in one way or another."

These comments and observations appear to support this Concept's conjectures.

Reconciling Relativity's maths continued contributions to our Quantum Reality is not our only new challenge. How the Twistor Field manifests itself via energy fields and gravity waves will be a fundamental part of creating our new language to bridge our transition from classical to Quantum.

How to add up these changes is what has to be described by our new Quantum Language. Since the the classical-attraction-based relativity concept only holds true up to solar system size calculations, cosmologies addressing galaxies and larger will require new quantum based formulae as described in the following Cosmology chapter.

COSMOLOGY

Our Universe's cosmological evolution can be broadly explained by evolution/devolution of Twistor Field energy forces because the Twistor Field has to embody all forces including gravity waves and electroweak phase change implications et al. Explanations and descriptions must also include redefining and reformulating heat/entropy based theories.

The Twistor Field attempts to achieve equilibrium continuously and at every opportunity to do so. The Twistor Field does this by exploring all evolution/devolution possibilities in each and every quantum interaction. Large scale variations of energy-pressure densities caused by the cumulative effects of continuous evolution/devolution at every scale is what must be calculated by quantum based maths in order to describe our Universe's cosmology. This is because the Twistor Field embodies all particles and forces. It therefore reflects those other forces/fields existence via changes within itself. The fluid-dynamics-like-pressures it generates may be either enhanced or depressed in different localities due to the Twistor Field supporting the energy needs of magnetic fields etc.

As the Twistor Field expands, contracts and assumes asymmetric concentrations of energy it will prescribe

energy-dense cosmic web features including magnetic plasmas that are accompanied by commensurately low-energy deserts between them in what we call voids. The Hubble-Tension discrepancy is explained by this Concept.

Miriam Frankel said that we may have to reimagine gravity because we appear to live in a patch of space so vast and empty that it breaks the current laws of cosmology. Astronomers call our part of the Universe the local-hole. It is an almost unimaginable expanse of nothingness that is the largest cosmic void we know of. Current cosmologies say that it shouldn't exist at all and our galaxy is near its center. This Concept supports the void's existence, and our own.

A major event happened when the Twistor Field experienced a phase change just after its beginning when the electromagnetic force separated from its related electroweak phase. This created magnetic lines of force at exotically high energy levels. These lines of force dominated the early Universe's expansion epoch creating voids where local energy densities lowered.

Voids are described by the current standard cosmological model (Lambda-CDM) as being driven by a constant "dark energy" force. But recently, a new detailed map from the Dark Energy Spectroscopic Instrument shows that over time "dark energy" can actually grow stronger

and weaker. This Concept's field energy pressures give a more logical reason.

Consolidation of matter along those Universe-wide lines, along with their associated voids, dictated the large-scale evolution of our Universe. After being warped, fractured and interwoven by our Universe's evolution, these force lines are now identified as an artifact we call the Cosmic Web.

Gravity waves themselves need to be accounted for as well. The team of scientists using the Laser Interferometer Gravitational-Wave Observatory (LIGO) detected vibrations that suggest that what has been described as fixed-space is not what it seems. Gravitational waves temporarily not only change the medium they travel within but they also leave permanent footprints. LIGO has shown that a passing gravitational wave distorts space by bringing objects closer together before leaving them back in their original position. Echos of that original distortion do the same thing over and over with each echo weaker than the last.

Adding up all of these echos gives a surprising total answer. All objects (planets etc.) will become closer to one another after the gravity wave passes. Cosmologies will have to account for this.

This Concept Of Gravity also infers that heat/entropy is an emergent property. Heat/entropy is a classical cousin to Relativity based attraction gravity. Heat/entropy maths do model reality with apparent accuracy, but this is misleading due to the limitations of its classical maths only being approximately accurate. Currently, only Roger Penrose's Conformal Cyclic Cosmology (CCC) refers to a concept similar to a weakening devolution of the Twistor Field that leads up to a phase change in the distant future. But, CCC is limited by being a classical, relativity based, heat-entropy-centric theory. CCC's phase change concepts should still be valid but a purely quantum energy based Twistor Field phase change will require purely quantum energy based calculations and not CCC's classical heat/entropy maths.

Addressing many-body rotational examples is needed as well. An example is a pair of neutron stars generating extreme magnetic fields (magnetars) whose electrodynamic fields would locally play a more dominant part than the Twistor Field's energy-pressure-variation-equilibrium effects.

The timing of resolutions to multiple effects like these, who are all sustained by the Twistor Field, will have to be calculated with their competition for Twistor Field support judged in order of precedence.

Gravity wave caused modifications to the Twistor Field, along with the multiple energy forces' variable energy-pressure changes discussed here will have to be taken into account for their affects on the Twistor Field locally, regionally and universally.

Ultimately, universe-wide calculation complexities include ever-evolving, cumulative, interacting and nested-doll-like variables. Only a few of these variables were covered in this book. This Concept Of Gravity infers that universe-wide calculations may ever be only estimable on the aggregate and never exact.

ORIGIN STORY OF THE TWISTOR FIELD

This Concept’s Twistor Field requires nine dimensions of freedom because it has to support three-dimensional Bosons and three dimensional Fermions along with a three dimensional background field that sustains relationships amongst all nine dimensions.

The Twistor Field's nine dimensions embody the implications of the odd-vs-even concept. It is coupled to the concept of non-zero as well. These concepts dictate the ranges, forces and hierarchy of the dimensions as well as restricting the entities allowed to participate.

Therefore, before describing how the Twistor Field came to be, it is important to know in more detail why it is composed of an odd number of dimensions and not composed within an even number of them. Why there is matter and no antimatter or the asymmetric handedness of our universe is explained by the Twistor Field’s odd number of dimensions’ interactions. Our known reality of inhabiting a universe composed only of matter instead of one composed of both matter and anti-matter logically dismisses even numbers of dimensions because everything would cancel out completely in that perfectly balanced environment. Logic also disallows any dimensional combination that includes a zero since, well, zero.

Matter and antimatter are each others equal and when combined they disintegrate in a burst of pure energy. They were created in equal numbers in the past and are still being created equally by what we currently call the quantum-foam of space vacuum energy (Twistor Field).

This odd dimension handedness deserves a more detailed explanation. To do so, we can start by arbitrarily calling matter left-handed and antimatter right-handed. We can then use an armchair to represent our Universe's odd numbered, multidimensional, matter-versus-antimatter asymmetry.

You are sitting in an armchair. Your left hand upon the left armrest represents zero energy. Your right hand on the right armrest represents an even, smooth ten dimensions of energy vibrations.

But, zero is zero and cannot represent reality.

So, our ten dimensions actually start by moving your left hand just off the left armrest into your lap area. It follows that arriving at an even ten dimensions must then fall just to the right of the right armrest. But don't move your right hand off the right armrest. We only want to have nine dimensions and not an even ten, so your right hand on the right armrest is now located where nine dimensions

stop before becoming an even ten just off to the right of the right armrest.

Now clap your hands together. You just annihilated a matter/antimatter pair of particles. Anywhere you clap both hands together, from just inside the left armrest to the top of the right armrest, you cause destruction. But, if your left hand doesn't move to the right of the right armrest and your right hand does, your right hand doesn't exist. It's existence is unsupported. So, no clap. No annihilation. We then have matter but no antimatter.

This asymmetric creation, statistically, is incredibly-exceedingly-vanishingly rare. But in our quantum reality, if something has a non-zero chance of happening, it isn't just possible. It absolutely *will* happen and it will happen *repeatedly*. Period. Indeed, our bodies' atoms are themselves composed of these very same non-zero-chance, matter-creation examples.

Returning to more general descriptions, the Twistor Field came to be at the beginning of our Universe via pure energy. The homogenous pure energy field at the beginning of the Universe broke into bubbles via phase-transitions each containing lesser fractions of the primordial energy that manifested heavier versions of matter. This greatly expanded the extent of the universe and generated copious numbers of primordial black holes.

Similar to boiling water simmering down in temperature from a roiling boil, these bubbles themselves disintegrated into smaller divisions in more phase-transition stages furthering the expansion of the universe until the smallest, most stable and lowest temperature variation came to inhabit the entirety of the Universe in the form of the Twistor Field.

The Twistor Field evolved from pure energy via an odd number of energy spheres with mutual manifold contacts experiencing phase changes from as many as twenty-seven dimensions down to nine while creating super symmetric particles that immediately formed black holes. This allowed the more weakly interacting particles to dominate the rapidly expanding early Universe. Studies like the Affeck-Dine Baryogenesis that combines cosmic inflation and super symmetry could possibly be useful in investigating this.

Any formal mathematical description of this concept should not rely upon a single fixed value for the Twistor Field over history. The Twistor Field has evolved subsequent to its creation and was thereafter locally influenced with variable energy scales from local to galactic and on to the cosmic web. The Field's energy budget at the beginning could vary within universes originating from starting conditions differing from our own.

Possibly, only a single one of many phase-change bubbles may have became our Universe.

String Theory Maths that embrace ultimate randomness, who are themselves tamed or focused by Twistor Maths, should be able to represent this nine quantum-level-triad-interacting-field.

To summarize, possible theoretical proofs start with the beginning of our universe where twenty-seven dimensions may be required to accommodate super-symmetric particles before phase transitions precluded their further creation along with commensurate reductions in dimensions. The maths should produce Penrose style Twistors (spinors) as the agents of change with overall research made under the practical umbrella of Fluid Dynamics. String Theory maths tamed by Twistor maths will provide the language to help develop the origin story's Contact Geometry covering only odd number Sphere Maths with focus on its subset relating to Contact Manifolds. The authors of current sphere/manifold geometry papers are Jonathan Bowden, Fabio Gironella, Agustin Moreno and Zhengyi Zhou.

A promising avenue of quantum field research is Christopher Beem, Madalena Lemos, Leonardo Rastelli, and Balt C. van Rees's (2, 0) Superconformal Bootstrap paper that plays a role in string theory and is conjectured to exist in six dimensions. This Concept infers that their

six dimensions may lead to representing the Twistor Field's Fermion and Boson Triads.

The Bootstrap conjecture is agreed to by Nima Arkani-Hamed (the Amplituhedron's creator) who commented: "*It could be reflecting a polyhedral structure of the space of allowed conformal field theories, with interesting theories living not in the interior or some random place, but living at the corners*."
Nima Arkani-Hamed speculated that the polyhedron is related to, or might even encompass, his Amplituhedron that was referred to earlier and echo this Concept Of Gravity's suggested origin story research.

Nima Arkani-Hamed has also described a pentagram, like his Amplituhedron, as being defined by a finite set of lines crossing at a finite number of nine points where eight of those dots can be placed on a grid.

But, the ninth dot always falls between grid points. The ninth is forced to correspond to an irrational number. He posits that this is a mathematical proof that all algebraic numbers can be derived from configurations of a finite whole number of intersecting points and lines.

His conjecture is that everything from irrational numbers, to particle interactions and ultimately the correlations between stars' positions arises from arrangements of

whole numbers. He conjectures that since they exist, so must everything else.

Arkani-Hamed's conjecture may be reflected in this Concept of Gravity. This Concept's odd numbered dimensionality is the basis for the handedness outcomes where there is something instead of nothing because the odd number of dimensions disallows even harmonics that cancel each other out.

Also, an eight dimensional universe is too prescriptive and restrictive to be able to represent all particles in the Standard Model because it can't accommodate the electroweak force's complications that prevent asymmetric matter/antimatter statistics if constrained to the older Eightfold Way (that was replaced by the more accurate Quark Model). In addition to supporting nine interacting dimensions as detailed in the next chapter, it is also logical to include the ninth dimension because it adds imaginary-numbered, asymptotic freedoms.

Ultimately, the Twistor Field's nine dimensions support conjectures that our classical, ordered and graph-able eightfold-way Standard Model can only exist within a quantum reality whole that is dependent upon cohabitation within an odd, irrational-numbered, probability-driven and purely quantum based field.

NINE DIMENSIONS WORKING TOGETHER

The nine dimensions of the Twistor field are not independent actors. They are inextricably interconnected. There are three dimensions to the background of the Twistor Field, three to sustain fermions including the Higgs' range, and three for the boson force carriers. This Concept refers to them as the Background Triad, the Fermion Triad and the Boson Triad. The low to high energy frequency hierarchy is in that order.

Synergy via harmonic inter-Triad interactions of reinforcement and cancellation with similar intra-Triad relationships allows for dynamic energy flow between them all. None are static. No single dimension or triad can be considered a stand alone entity. The Fine Structure Constant should be a mathematical theme repeated/ echoed throughout the description of the Field as being a reinforcing driver of interactions inter/intra triad.

The Background Triad's energy equals the total energy of the other six dimensions combined. The Boson Triad commands almost as much energy as the Background Triad. The middle Fermion Triad remains in flux with a more variable total of energy due to fluctuations of matter's demands for fermion support and mass related boson involvement and therefore its boundaries are dictated to it. Only a few percent of the entire field's

energy is commanded by the Fermion Triad on average. The Fermion Triad's bottom is hard since it can never be lower than the frequency defining the upper end of half of the total energy contained in the whole Field always commanded by the Background Triad. The upper limit to the Fermion Triad is what the larger Boson Triad allows it to populate at its bottom energy frequency. This boundary is the only flexible interaction point in the Field.

Plotting the Field's energy distribution on a bar graph of frequencies representing energy potential increase from left to right shows the low frequency Background Triad's range to cover the graph almost entirely even though it only commands half of the Universe's energy. The Fermion Triad's tiny sliver to the right of the Background represents a few percent and the Boson Triad's sliver represents forty-plus percent of the Universe's total energy because of the exponential increase of energy commanded as frequencies climb.

The Background Triad's frequency range of freedom must be calculated down to within a quantum of energy above zero; and, the Boson Triad's frequency range must be allowed a range up to within an energy quantum of vibrating like an even tenth dimension.

The top six dimensions' frequency relationships are embedded and actualized within the Background Triad.

The Background Triad can be likened to the ocean where small perturbations can reinforce each other to manifest rogue waves. But, in the case of the Background, it cannot quite actually pop out a monster wave. The Background is frustrated and constantly on a knife's edge wanting to bust-out. Virtual particles popping in and out of existence are the manifestations of this boiling potential chomping-at-the-bit. Hypothetical Axions' properties may be one description of the Background's long wavelengths.

It is up to the Fermion and Boson Triads to manifest for the Background. The Background Triad is like a trampoline with the Fermion Triad being a bowling ball bounced up by it. The Boson Triad then can be likened to a golf ball rebounding off the bowling ball resulting in the explosive acceleration of the golf ball. The Fermion Triad thus acts as a trigger to release Boson energies by actualizing the latent trigger-happy Background energy.

A LIST OF FACTS TO PONDER

In addition to the many physics, maths and cosmology items referred to in the book so far, the following numbered list is offered. The average reader is not expected to understand details of these concepts. Rather, most are directed toward professional physicists and mathematicians as suggested research and experimentation avenues. Other readers should at least skim through them and only research those they are interested in. The effect, or study, or authors referenced can be searched for on the internet. Learning all these facts and references is not required to grasp the Concept, but they provide for a greater depth of understanding.

1. Casimir Effect

The Casimir Effect is explained by the Twistor Field's local energy-pressure imbalance.

2. Two Slit Experiment

The famous two-slit experiment's bow-wave explanation now has its medium.

3. Non Electron Energy Flow

Strange Metals' non-electron energy flow is supported by the more fundamental Twistor Field's ability to manifest all of the many, different phases of matter.

4. Gravity Waves

LIGO related gravity waves are given a medium that facilitates their quasi-particle-like wave propagation as well as providing a framework for calculating the Field's dissipation rate etc. Also, NANOGrav Collaboration's mix of background waves could help define the Twistor Field's evolution.

5. Quantum Energy Teleportation

Masahiro Hotta's experiments showed quantum teleportation of vacuum energy is possible. The Twistor Field explains how by providing the Field to embody it.

6. Hierarchy Problem

Descending weights of short lived three generations of matter are explained by their sustained energy support restriction due to the Twistor Field's speed-of-light supply-chain restrictions. This Hierarchy Problem is explained by the Twistor Field's Fermion Triad (Higgs Field) limitations to actualizing the Background Triads energy to trigger Boson Triad contributions to the creation and continued existence of a mass.

7. Unruh Effect

The Fulling-Davies-Unruh effect where an observer who is accelerating through empty space should experience a virtual-thermal-bath not measurable by one in the same region not accelerating is explained by the bow-wave-Twistor-harvesting interactions of traveling masses.

8. Antimatter Gravity

Antimatter hydrogen that was created and released did indeed drop/fall. This shows that both the handedness preference of the Twistor Field's harmonics is intrinsic and that the traditional effects of attraction gravity are not transmitted via particles with any form of parity/charge etc. This Concept Of Gravity demands this result.

9. Quantum Universe

Brendan Dromey's theoretical rethinking-of-reality paper questions whether the entire universe is a single quantum object. He postulates that many physicists are starting to view the cosmos not as made up of disparate layers, but rather, is a quantum whole linked by entanglement. This position is embodied by the Twistor Field.

10. Universal Tensor Network

Wave Function (Pilot Wave/Tensor Network) is embodied by the Twistor Field. Sheldon Goldstein wrote that the Wave Function

"*combines — or binds — distant particles into a single irreducible reality,*"

where a single particle's trajectory depends on what all particles described by the same wave function are doing without any geographic limits meaning that the universe is interdependent, even across all of the universe. This is embodied by the Twistor Field.

11. Wobbling Weights

A Weller-Davies' article, 'Wobbles of Weight in Spacetime', describes experiments that could identify an example of the variable and continuous Twistor Field support for a test weight's gluons. Finding such weight fluctuations would be dramatic since the variability may have to be measured by relatively small numbers of quanta energy units. If so proved, it would confirm that the Twistor Field's continuous entanglement/decoherence are never finite in their resolution. This would confirm that true, absolute, static equilibrium can never be achieved. The frequencies of the Universe and its constituent parts can never be resolved as being even, or zero.

12. Quantum Bomb Detector

A thought experiment proposed that a photon could act as a bomb detector through its properties as both a particle and a wave. The Bush/Frumkin study of bouncing fluid droplets found that the interaction of the droplet with its own waves behaves in exactly the same statistical manner that is predicted for the detector photon including quantum tunneling and single-particle diffraction statistics. Twistor Field based reality doesn't just allow this, it embodies it.

13. Gluon Distribution Scales

Quark-Gluon Plasma Hadronization experimentation involving extremely large energy changes where scalar gluon distribution extends way beyond the

electrodynamic proton radius may be a productive research area. The results could exemplify outside Twistors supporting gluons and help to assign Twistor energy ranges.

14. Chasing Equilibrium

In their Quantum Cheshire Cat Experiment, Yakir Aharonov, Eliahu Cohen and Sandu Popescu argue that it should be possible to separate a particle's momentum from its mass along with its spin. The Concept Of Gravity's continuous evolution/devolution is forever striving toward perfect equilibrium and so it always allows for measurements in any and all possible vectors or velocities since it never has to reveal the winner-of-that-moment answer until forced to do so.

15. Unequal Heat Transfer

Aljaz Godec found that a microscopic sphere of silica that is rapidly heated or cooled by an electric field appears to do so in a lopsided way, heating up faster than it cools. Godec stated:
"*This is very surprising, So far, we know that this is true because we have shown it, but I don't think we can claim that we understand why this is the case."*
The Twistor field energy-pressure differential explains this.

16. Neutrino Experiments

Neutrino flavor/mass research is provided a new opportunity. While a neutrino is magnetically neutral, it is

only nearly perfect in its lack of spin. A spin that is incredibly slow/low energy would pass through near countless Twistors before snagging enough tiny bits of energy to exhibit as a mass only to shed it again through more Twistor Field passage. This could be an avenue to posit values for Twistors' energy and matter/antimatter asymmetry theories.

17. Alena Tensor

The Alena Tensor described by Piotr Ogonowski was offered as a method to straighten curved space-time. It infers that the universe is a constantly waving field that does not comport with relativity seamlessly. This is a feature of the Twistor Field, therefore the Alena Tensor could be a fruitful research area.

18. Neutron Stars

Study of Neutron Stars may be a path to refine calculations of the Twistor Field's black hole horizon super-fluid-state. Related Luminous Fast Blue Optical Transients powered by feeding neutron stars may be frequent and consistent enough to help quantify the upper ranges of Twistor Field energy contributions to the highly stressed neutron quark gluons.

19. Geometric Maths

Renate Loll's Causal Dynamical Triangulation research is a geometric approach that may be a fruitful path toward developing theories unencumbered by relativity maths.

This, along with Jaroslav Trnka's amplituhedron mentioned earlier and Jesper Moller Grimstrup and Johannes Aastrup's Quantum Holonomy-Diffeomorphism are encouraging news about the quest to describe a purely quantum based reality without invoking classical concepts.

20. Laser Pulse Experiments

Jerome Faist's Ultra-short laser pulses may allow us to measure the quantum nature of the vacuum (Twistor Field). Analyzing these pulses' properties may allow measurement of the Twistor Field's decoherence/ evolution/devolution.

21. Atomic Interferometry

Chris Overstreet's, proposed atomic interferometry experiments are very desirable research paths. Even at lower energies, the results could be showing fluid-dynamics-like-gravity effects of the Twistor Field.

22. Photon Interactions

Actualizing Zain Mehdi's proposed light beam experiments could be very informative in showing photons interacting with the Twistor Field.

23. Entangled Masses

Actualizing Sougato Bose's proposed entangled masses experiments should not show gravitons, but should show how the masses move toward each other through the

Twistor energy desert between them and if the test is extremely sensitive, possibly show Twistor involvement.

24. Quantum Jump Vibrations

The Logan-Wolynes Theory on random/erratic vibrations may be an experimental path to show how Twistors facilitate quantum jumps.

25. Twistor Spinors

Peter Woit's Twistor/Spinor studies may show a path to constraining String Theory development enough to identify which options will be able to formally describe the Twistor Field.

26. Quantum Turbulence

Takeuchi's superfluids research focusing on understanding quantum turbulence in superfluids shows that the Reynolds Similitude in superfluids can be measured. If verified it would suggest that quantum viscosity exists even in pure superfluids at absolute zero. This result would echo the Twistor Field's energy differential properties and possibly point to quantifying the Field's pressure differential range.

27. Pseudo Gravity

Experiments exhibiting pseudo-gravity deflection of electromagnetic waves within photonic crystals could model a classical research path for positing the

underlying quantum values of the Twistor Field's inter-dimensional string theory harmonics.

28. Path Integral

Feynman Path Integral functions that predict the behavior of quantum systems are assumed to be represented/manifested in Twistor Field maths to accommodate decoherence/evolution/devolution wave interactions. Also, the more generic Lagrangian Function maths and Triplet Trees framed by Markov Numbers may be a path to guide Twistor Field maths development since Markov chain maths undergo transitions from one state to another according to probabilistic rules where nothing about the past specifically affects the future. This is a feature of the Twistor Field.

29. Modular Forms

Generic mathematical Modular Forms may inform mathematicians on how to insure their work satisfies the infinitely many hidden symmetries demanded of Twistor Field descriptions.

30. Quantum Mazes

Quantum algorithms for solving maze problems may be a productive path to help formulate string theories that model the Twistor Field's harmonic evolution/decoherence where the past knowledge of attempted paths is forgotten. Since there is no going-back-in-time in our

Twistor Field reality, having to forget to get the answer is a feature, not a bug.

31. Objective Reduction

Penrose's Objective Reduction concepts are explained by his Twistors being supported by real, nine dimension field and not just fictional space. Reviews that balk at accepting the jumping-back in time inferred by descriptions of Objective Reductions have no basis for continued objections within this Concept Of Gravity where time truly does not exist. The particle/thing we used to say was decided upon as reality by regressing in time was merely the winner of the Field's harmonic evolution/devolution attempts to achieve equilibrium. All possible variations of that particle/thing that could be supported by the Twistor Field did exist until the harmonic evolution/devolution settled upon what we call reality. No time continuum violations occurred. What seemed to be in front of or appeared after what became stable reality were only lesser probable possibilities explored by the wave function harmonics' evolution/devolution process. The losers merely coalesced into the more stable winner. Nobody jumped anywhere in fictional time.

32. Giant Cosmology Structures

Alexia Lopez has discovered unexpectedly large structures in the cosmos including the Giant Arc next to the Big Ring. These do not fit the standard model of the cosmos based upon relativity. Lopez states:

"*These oddities keep getting swept under the rug, but the more we find, we're going to have to come face-to-face with the fact that maybe our standard model needs rethinking.*" and "*As a minimum it's incomplete. As a maximum we need a completely new theorem of cosmology.*"
Proposed acoustic waves that give rise to spherical shells of galaxies or cosmic strings are offered as possible explanations for these structures. These proposals should be explored by Twistor Field focused research since the fluid-dynamics-like properties of the Field's evolution should support large structures.

33. Hawking Radiation

A media production, 'Ask Ethan: Starts With A Bang' questions: "*How does Hawking radiation really work?*" He argues that particle-antiparticle pairs falling into or escaping from a black hole is inaccurate and misleading requiring a deeper explanation that alters our view of reality and invokes the Fulling-Davies-Unruh effect.
His observations generally offer support for the Twistor Field more than most current news. If his relativity based maths were replaced by pure quantum field theory based maths, his observations may be accurate.

34. Emergent Space/Time vs. Quantum Reality

The following comments made by Sean Carroll appear to support the basic logic and framework of this Concept Of Gravity as well as the Concept's entanglement

descriptions along with its rejection of classical maths use. On spacetime being emergent Sean Carroll states:
“So I don’t think that there is any such thing as a position or a velocity of a particle. I think those are things you observe, when you measure it, they’re possible observational outcomes, but they’re not what is — okay, they’re not what truly exists. And if you extend that to gravity, you’re saying that what we call the geometry of space-time, or things like location in space, they don’t exist. They are some approximation that you get at the classical level in the right circumstances. And that’s a very deep conceptual shift that people kind of lose their way in very quickly. It’s a tricky word. We have to think about it. Emergence is kind of like morality. Sometimes we agree on it when we see it. But other times, we don’t even agree on what the word is supposed to mean. So, the physicists, and mathematicians, and other natural scientists tend to — but not always — rely on what a philosopher would call weak emergence.”
On quantum entanglement Sean Carroll states:
“So, even though you don’t know what direction the electron is going to move in, and you don’t know what direction the positron is going to move in — sorry, I’m already, I’m being, I’m being the person who I make fun of, I’m speaking as if these are real.
Even though you don’t know what direction you will measure the electron to be moving in, and you don’t know what direction you will measure the positron to be moving in, you know that if you measure them both, they will be

back to back. Because they need to have equal and opposite momentum, for those to cancel out. So what that means is, if you believe all those things, right away, this is why we believe there's only one wave-function for the combined system of the electron and the positron. It's not an independent question, what direction are you going to measure the electron in? What direction are you going to measure the positron in? It's a statement you need to ask at the same time. That's entanglement, right there."
On the entanglement of the entire Universe as a whole, Sean Carroll states:
"And then what you can do is take two different points of space-time, at some distance between them, and because there's still things there, because there still are fields even in empty space, you can say, is there entanglement between these two points of space? Because of the fields there. Are the — is the quantum state of the fields at these two points in space, is it entangled? And the answer is yes, it is always going to be entangled. And in fact, more than that, if the points are nearby, the fields will be highly entangled with each other. And if the fields are far away, the entanglement will be very, very low. Not zero, but very, very low. So in other words, there is a relationship between the distance between two points and their amount of entanglement in the lowest-energy state of a conventional quantum field theory. And what we say is, look, we start with an abstract quantum wave-function. We don't have any such words like distance, or fields, for that matter, right? But we do

have the word entanglement. We can figure out, if you divide up the wave-function into this bit and this bit, are those two bits entangled? There's mathematical ways to measure them using the mutual information, etc. So you can quantify the amount of entanglement between different pieces of the wave-function. And then, rather than saying the more distance, the less entanglement, you turn that on its head. You say, Look, I know what the entanglement is. Let me assume, let me put out there as an ansatz [a mathematical assumption], that when the entanglement is strong, the distance is short. And I'm going to define something called the distance. And it's a small number when the entanglement is large, it's a big number when the entanglement is small."

These statements appear to support the basic logic and framework of this Concept.

AN AGE OLD FABLE OF THE SCIENTIFIC AGE

This fable involves two families. The Theory family and the Logic family. When Theory joined with Concept they had a child named Inference, a precocious girl. When Logic joined with Intuition they too had a child they also named Inference, who was no less precocious. The girls were indistinguishable and could fool each other's parents as to who was who. Allegorically speaking, this Concept was written by the two girls. The two have been equal writing partners for centuries. They have exposed scientific discrepancies from Galileo v Religion to Newton v Einstein. They have instigated a multitude of conjectures and theories. The Inference girls' legacy is that hindsight will statistically be superior to any current vision.

The concept named Time (space/time) is ancient. It has served our species well indeed from hunting patterns to seasonal crop plantings. The Theory of Relativity is truly married to this Concept. The Theory's child, Inference, boldly stated there should be Black Holes singularities. Many have worked diligently on this inference within the restrictions and prescriptions of the concept of time by using the maths of Einstein's Theory. Schwarzschild, Penrose, Kerr and others heard the Inference Girls arguing back and forth about singularities. They developed

theories of black holes and how they behaved inside to address what the Inference girls were talking about.

Roger Penrose's theory proving that singularities exist is indeed perfect and unassailable when judging it is constrained within Relativity's maths and the concept of time. It earned him a Nobel Prize. The Theory Family Tradition stood tall with it and their girl was satisfied. But, what did the Logics' girl have to say?

Roy Kerr heard the Logics' girl, Inference, and developed another solution to the singularity challenge that is a tour-de-force as well. He proved that there is no singularity in a black hole.

Both scientists are true geniuses and this Concept Of Gravity shows that both can be correct. How? Because it exposes the fact that their arguments are based upon a classical math concept not rooted in our quantum-field-based reality.

This is where the Concept Of Gravity comes back into our fable. This Concept argues that when there is a conflict between the Inference girls, the Logic Family's girl should be given equal consideration to Theory's, no matter how settled the theory appears to be. Roger Penrose himself is famously on Logic's side too. His Emperors New Mind book's simple Amoeba-Logic dismantling of all pre-1990's

brain theories could be the poster child supporting this position.

This Concept proposes that over a century of experimental efforts have informed the Logic's girl enough for her to suggest that the attraction/graviton concept should be dismissed and we should also disallow any descriptions of mass that claims to be static, unchanging and real all by itself. Instead, she posits that mass cannot be created nor stand on its own without continuous Twistor Field support. Her basis of all reality is a quantum energy field.

SPEED OF GRAVITY WAVES VERSUS TIME TRAVEL

What might the Inference Girls be talking about after reading this book so far? Might they be debating light-speed-travel?

The number of topics they will infer over time will be numerous and challenging. This book will use Relativity's Space/Time Dilation as one example.

Classical Relativity infers that Time Dilatation is what is described in the Twin's Paradox where one of a pair of twins travels out and back at a speed approaching the speed of light while the other twin stays on Earth.

Relativity infers that the traveling twin, Speedy, may return to earth after a year of travel near light speed according to her atomic clock to find her once young twin is now a very old woman near death from old age after living a long life over many Earth-years. Relativity doesn't actually say how its imaginary Time Dilation keeps Speedy's body's cells from aging and breaking down at the same rate as her sister's.

Why is Relativity thought to suggest that the speedy young twin would not age as fast as her Earthbound

sister? Relativity only specifically infers that what it calls time slows down for the Speedy twin. Relativity doesn't state that the entire Universe didn't age as a whole. Rather, Relativity suggests that the two sisters experienced the Universe-as-a-whole's "time passing" differently. This distinction is at the heart of this parable's conundrum.

The oft repeated conundrum is that, physically, Speedy would somehow or in someway experience a different reality where her body cells' biological degradation inherent to aging is slowed when compared to her twin. What is not discussed is that alternately, and with equal substantiation according to its maths, Relativity may instead be inferring that the earthbound woman's cells somehow and in someway broke down more rapidly than the speedy girl's! These answers, whether taken separately or together, are not logical. Why? Because space-time is a fictional construct as is explained throughout this book. Time-spright particles do not exist and "Time" is not a real, physical, energy-agent of change. Fictional "Time" cannot and does not *do* anything to a person's body.

Let us return to basic principles. Arn't bodies made of the same atoms no matter how fast they move? Ultimately, biological degradation is a chemically based pathology that, in turn, is sustained by quantum based atomic-level forces. So, in the end, which is it? Was the Speedy girl's

degradation slowed or was her sister's aging speeded up?

That is what Relativity actually leaves for us to decide. To repeat: These answers, whether taken separately or together, are not logical. Period.

As we discovered earlier, Relativity can still be right but for the wrong reason. This is so once again when discussing light-speed-travel. The Einstein Equation's stress-energy tensor (space) and the Einstein tensor (time) are two *equal* sides to its inferences regarding this aging paradox. It may be that too much Inference chat has been made about this subject. But, is there an answer to this conundrum that is based in reality? Yes. The answer comes from applying what this Concept Of Gravity says about time-travel.

Near maximal Twistor Field bow wave energy harvesting would be provided to the atoms making up the Speedy girl. So, less quantum evolution/devolution of particles making up Speedy is good news for her because a little bit more of anti-aging-energy would be available to slow Speedy's chemical pathology. But this help would be negligible compared to her earthbound sister when we address reality's restrictions to us ever traveling anywhere close to light speed.

This small percentage of slowing time is not insignificant though. It is how GPS clock systems work. Tangible, notable scientific fields and technologies are based upon these minute differences. According to Relativity, the millisecond differences in time measurement is once again due to its “Time Dilation”.

A more logical and physical explanation is given by this Concept. A clock’s faster passage through the Twistor Field’s energy provides energy to the particles making up the clock at higher levels than what would be available to them at slower speeds. This fact slows down the constant evolution/devolution attempts by the Quantum Twistor Field in its never-ending quest to achieve ultimate equilibrium.

The clock’s physical environment is changed and it physically experiences reality at the quantum level differently when compared to slower moving versions. As it traverses its path, each clock’s environment is a separate and independent reality. Each clock’s “aging” difference, or how it represents reality, or how it responds at any moment, changes because it has a real and independent explanation specific to itself and its own environment.

Returning to the twins, it can now be noted that the Speedy girl was not traveling near the speed-of-light through fictional time. Instead, Speedy was hypothetically

traveling at close to the speed of gravity waves through the energy of the Twistor Field. This is not possible in our quantum field reality. Many Twistor Field imposed realities make near-light-speed-travel like this literally impossible and also makes travel anywhere close to the speed of gravity waves technically impossible as well.

For the science fiction writers out there, they will be saddened to hear that this means there is no time traveling allowed in our quantum reality.

Both Relativity and this Concept agree that actual light-speed travel is factually impossible due to the infinite propellant energy required to do so. Since Relativity is describing a fictional universe composed of its own creation called space-time, it still allows approaching that speed. This Concept however, puts many real impediments to getting anywhere near a speed where the girls' cellular pathologies dramatically age differently.

After energy constraints, the next deterrent is embodied by the Unruh Effect where the Twistor Field's heat energy generation from bow wave compression would approach its maximum. No spacecraft could protect our speedy girl from these exotic temperatures. The unsurvivable temperatures would be experienced at much lower velocities than Relativity's inferred limits. At most, only a few years worth of pathology degradation would be able

to describe the “aging” differences at these slower speeds.

Reality also dictates that it will remain technically impossible for us to generate, package and deploy the huge amounts of energy required to accelerate and decelerate our fictional spacecraft anywhere near the speed of gravity waves where “aging” would become extreme. The energies involved would approach quasar jet amounts.

Added to those problems is the fact that Speedy’s body would have to somehow be insulated from the exotic G-forces imposed upon her that would be needed to accelerate and then decelerate anywhere close to the speeds required to make the fabled, fictional trip in any human’s lifetime in the first place.

And then only if…. well, you get the drift.

What other impossibilities may be inferred by this Concept in addition to prohibiting light speed travel? To start with, the Inference girls suggest that there is no warp speed, no time travel, no wormholes, no hidden multiverses and no faster than light communication. But, don’t despair, our future will not become as dull as you may think. Read about why in the next chapter.

FUTURE INFERENCES

This is the chapter where some of the Twistor Field's future is envisioned. It is not unreasonable to think that some readers may dismiss this discussion as being a bit outlandish. But, if the inferences presented here weren't a bit out-there, they wouldn't be worth discussing. After all, we have been discussing time travel, wormholes, faster than light communication and the like for a century. So, if those aren't possible anymore, we deserve to have some new possibilities to debate. The reader is only asked to remain open minded.

What might be considered out-there by some readers? How about Invisible Massless Matter and Matter Replication/Teleportation and Inter-Epoch Communications and Quantum Brain Sensing? These should do for starters.

Invisible Massless Matter:
The limitations imposed upon Standard Model masses by them having to harvest energy from the Twistor Field to sustain their existence drives this discussion along with acknowledgment that the Twistor Field embodies or creates and sustains *every thing* from atoms to magnetic fields and from neutrinos to gravity waves.

What we call quasi-particles is our focus here. This Concept infers that what we call the standard model of matter is not the only family of quantum field vibrations that is possible in our quantum Universe.

The Twistor Field supports quasiparticles as well. These particles are invisible, able to travel at the speed of gravity waves and mimic the mass particles we are familiar with. The glaring difference from regular particles is that quasi-particles are massless. They do not interact with the Higgs Boson that imbues Standard Model particles with mass energy in addition to the intrinsic, underlying Twistor Field dimensional harmonics energy.

Quasi-particles, like phonons, can be used to communicate and transmit energy. Standard Model particles can travel the cosmos while quasi-particles have only “local vocals” currently. But, could we learn how to create/sustain them using gravity wave based energy? If so, could quasi particles be converted to “regular” mass particles? This Concept may infer this is possible.

Matter Replication/Teleportation:
Future physicists may learn how to create and manipulate quasiparticles and synthesize them in combinations equivalent to, or substituting for the standard model particles making up all of our normal mass reality.

This synthesized quasi-matter could then be injected, at will, with the Fermion Triad's quantum field frequencies and energies required to trigger the quasiparticles to acquire Higgs Boson related mass.

It then follows that light-speed quasiparticle travel could be coupled to conversion to mass-on-demand. This combination describes nothing less than matter replication and teleportation. Could this teleportation and replication ever include humans?

Inter-Epoch Communications:
For our next example we return to Penrose's Conformal Cyclic Cosmology (CCC) covered in the Cosmology chapter. His CCC posits that our current Universe will eventually expand to become so large and grow so old and get so cold that it will snap through a phase change that results in a release of energy in an expanding sphere that looks just like how we describe the big-bang. This would mark the beginning of a new epoch-of-time for our Universe.

This Concept Of Gravity infers that Penrose's phase change might be describing a Contact Sphere and its associated Contact Manifolds as described in the Origin Story Of The Twistor Field chapter.

Penrose further conjectured that we could create inter-epoch energy wave based messages before our Universe

went through its phase change and started its next epoch. These communications could travel into our future epoch intact. This then infers that other spheres neighboring ours may have also sent communications via gravity-wave energies through the manifold where our two spheres make contact.

Could this knowledge be exploited by us in the distant future? This Concept infers that this may indeed be possible.

Basic codes similar to the simplicity of digital bit streams pulsed via gravity wave frequency variations would seem obvious choices. However, more unique and more easily identifiable communications could be based upon manufactured quasi particle messengers. Sending quasi particle versions of a whole something (!?us?!) into our future epoch would be truly, and literally, out-of-this-world travel.

Should we start listening for our past selves' communications along with those from neighboring universes? How would we tune-in to capture these messages? What might the communications look like after billions of years in transit?

We must figure out how to create and send a quasi-particle message in the first place, then we will know how to engineer a way to listen for past communications. After

that, converting the quasi-particle message (messenger) into a mass-based reality would really be something fantastic indeed.

Quantum Brain Sensing:
For our last example, we review what this Concept implies about Hameroff/Penrose micro-tubular structures. These micro-tubular structures are in each and every living cell from Amoebas to us. Micro-tubular structures can sense and sustain quantum level vibrations like a quantum computer does, but can do so even in the wet warm environment of living cells.

These structures are not just the vehicle to embody our quantum calculating/functioning brain, but also are the portal into which the echos of the Twistor Field's harmonic evolution/devolution processes can be sensed by us, especially within our quantum computational brain structures.

The harmonics we sense via these structures are created by the Twistor Field's energy dimensions as they consolidate or coalesce entanglements (decoherence) into local equilibriums that result in creating and sustaining all that we call reality around us.

Knowing this, could we exploit our latent micro tubular quantum receptors' connections to the quantum

vibrations underpinning *every thing* we see around us? This Concept infers that we may be able to do so.

Using radio terms, if we can learn how to receive, amplify and retransmit the quantum wave information flowing around us that is created as things interact, then truly, the sky-is-the-limit to what may be done to enhance our perceptions and share our experiences and possibly create novel realities from pure energy.

PARADIGM CHANGE RESISTANCE

A paradigm is a philosophical and theoretical framework of a scientific school or discipline within which theories, laws, and generalizations and the experiments performed in support of them are formulated. Einstein's Relativity is the ultimate example of a paradigm. It has reigned supreme for over a century.

Given Relativity's historical impacts, this Concept Of Gravity certainly must appear revolutionary and threatening to the previous attraction gravity based paradigm. When this Concept's string theory based theory is finally formulated, multiple research communities from physics to cosmology, hailing from universities, government sponsored projects and private industry alike, will realize why they were discovering so many conflicting results in their research. In the end, when formal theories supporting this Concept are proven, Relativity/space-time will functionally be relegated to "Newton" status when considering galaxies and the larger Universe.

What does this mean then? It means this Concept will face some strong headwinds when trying sail against a century's worth of time/space/relativity based calculations, theories and Nobel Prize nominations.

So, how can this Concept be defended? Since it was based upon the brutal application of logic, it is as simple as one, two, three:

ONE: Prove that attraction gravity really is a stand alone force where “gravitons” exist as attraction force carriers and you can dismiss this Concept.

TWO: Prove that real, quantifiable “time sprites” (particles/forces) exist that directly and specifically affect the rest of our reality and you can dismiss this Concept.

THREE: Prove that real, quantifiable “space keeper/maker daemons” (particles/forces) exist that directly and specifically affect our reality and you can dismiss this Concept.

Unless and until someone makes this Concept Of Gravity one-two-three-skidoo, it remains more logical than all prior concepts or theories that are space/time/graviton based.

To be repetitive one last time, this Concept Of Gravity agrees that, locally, our reality can still be described very well by relativity based maths that can still be used to guide our path when judging competing string theory maths in our quest to produce a formal, mathematically sound Twistor Field Theory describing our Universe’s underlying quantum reality.

SECOND EDITION ADDITION
ON EXPERIMENTAL PROOF

Amazingly, there still is no proof by experiment that what we have been calling gravity for hundreds of years is actually an attractive force. But indeed, apples do fall to the ground. So, from Newton on, no one has challenged the attraction paradigm even though no scientific evidence has proved this is so.

Additionally, after Relativity's Maths dominated all related physics a century ago, the attraction gravity concept has been held in awe by all professional physicists and afforded a reverence that summarily dismissed all challenges to that paradigm. Also, in the not so distant past, few would even accept that a quantum field could be the basis of everything that we called reality. When the attraction status was challenged, Einstein's formulae were wielded like cudgels to dismiss seriously considering alternatives.

That was the paradigm status quo before this Concept Of Gravity pointed out that a quantum field generated energy-pressure based paradigm is our actual reality. Experimental proof is now required to break the spell of the attraction paradigm. Describing an experiment that can provide definitive proof one way or the other is the goal of this chapter.

Einstein' Relativity posits that if you were at the center of the Earth you would be weightless because the attraction gravity from all directions would cancel out to net zero. All prior attempts to explain how/why the center of the earth can be actually be weightless and act like it does have employed multiple long-winded, dissimilar and and exotically complicated reasonings. These involve electromagnetic flux/lead alloy phase changes/magma pressure-density-temperature evolutions/etc.

Only one of these explanations has a ring of truth as it relates to this Concept Of Gravity. That explanation describes pressure density "shells" of magma and crust holding down/in atomic nuclei strong force components in the weightless center. The force being "held in" is described as gluon energy that holds quarks together within the center of every atom. Notably, this high density energy is the very same Druck Term (pressure) energy created and delivered by the avalanche of Twistors described in this Concept Of Gravity. Experiments should be able to choose between the Relativity Paradigm's "gravity shells" holding down/in strong force energy versus this Concept Of Gravity Paradigm's Twistor energy pressure that is continuously delivered via a contiguous quantum Twistor Field.

How do we design an experiment to finally prove how gravity actually works? We should begin with a simple observation.

Relativity posits that its attraction gravity energy influence on mass will reduce as that mass falls deeper into the earth and will become zero at the center; while this Concept Of Gravity (COG) posits that its energy-pressure based influence will increase all the way to the center. The difference between the two paradigms' predictions is stark. This difference is not figurative. Directionally, they literally oppose each other in their predictions. This should be testable.

This simple observation provides a clear experimental variable and a testable hypothesis: Does a test weight get measurably lighter as it is lowered below the surface of the earth favoring the attraction gravity model or does it get heavier favoring this Concept Of Gravity's energy-pressure model.

Good experimental design suggests using a single independent test subject along with a single measurement device. A single representative test weight whose weight change is described by a single scale should be employed to take all measurements. There should be two main measurements. One at sea level over the Marianas Trench and one at the bottom of the Trench

with the test weight and weight scale housed inside a bathyscaph for both measurements.

Three examples of extraneous variables that might influence the results would be wave induced forces at sea level, the design of the bathyscaph where air pressure inside may change due to compression of its structure at depth and possible atomic level weight scale accuracy variability due to gravity itself. Skilled experimentalists should be able to identify and account for these and other extraneous variables.

So, what could this experiment show? At the bottom of the Trench, if attraction gravity is true, the gauge should register less weight and not even twitch toward measuring a heavier weight. Alternately, any indication toward the weight becoming heavier at depth, no matter how slight, would be proof that attraction gravity does not represent reality and future research should focus on alternatives suggested by this Concept Of Gravity.

Hopefully, this experiment can be performed soon.

THIRD EDITION ADDITION

On GRACE-FO Proof

This chapter is being added due to the author's belated personal discovery of the truly astounding GRACE satellite experiments. The program's climate and ecosystem elements appear to have kept it out of search results limited to quantum physics. The Gravity Recovery and Climate Experiment (GRACE) and its Follow-On (GRACE-FO) appear to provide the first hard science data showing support for this Concept Of Gravity's basic concepts. But, please understand this clearly: The NASA-JPL staff have not announced this support in any way. Hopefully, they will do so eventually. Performing the previous chapter's proposed experiment will be a watershed event as well, but the GRACE-FO data is already "in the can".

Learning about the GRACE data sets' astounding detail crystalized a logical proof of this Concept Of Gravity. When added to this book's prior observations, an ample number of avenues are now provided for reviewers to honestly review this Concept.

In this chapter, what the GRACE Experiments are and what they actually prove is summarized first. What they are not, and do not prove, comes second. Lastly, a presentation of logical proof is offered.

What are the GRACE data-sets?

They are a record of the relative accelerations of two satellites, in a 300 mile high circumpolar orbit, traveling in tandem formation one ahead of the other. The lead satellite's acceleration/deceleration relative to its trailing partner is recorded along with its trailing partner's acceleration/deceleration in relation to its leading partner. Basically, that is it.

The beauty of this simplicity was breathtaking to this author. It brought to mind another use of the word grace. In musical notation, a grace note is one that accentuates a principle note by preceding or following that principle note. A grace note can either be in consonance or it can be non-harmonic. If ever a scientific experiment reflected art, the GRACE satellite experiments do. The simplicity and accuracy of the climate related data they collect is as dramatic as a fine symphony indeed.

The GRACE data sets are accurate and replicable. The Grace Data is real. Ecology and earth sciences will mine this data to improve our ecology related decision making in ways yet undiscovered. An example is that when we plan for our future needs as a species, the data sets will specifically identify and track annual and seasonal variabilities of water accumulations so vital to us.

Overall, the predictive benefits to society writ large by this scientific effort can not be overestimated.

When diving into the specifics, we can see that this experiment provides a database full of detail that is ready to be mined by researchers. The legacy GRACE data sets are detailed enough to allow us to track groundwater depletion along with rainfall and snowfall accumulations equal to 1/2 inch of water covering 200 square miles at average continental elevations. Given that fact, there is no wonder in discovering that the 4 mile high mountain ranges figuratively explode out of the data sets even though they only average a single percent of the satellites' orbit height. That proximity to mass matters will be repeated here often.

The Follow On pair of satellites are continuing to add on to the legacy microwave data but have added laser instruments that are ten times more sensitive. So, future data mining to benefit us all will be even more accurate. The laser based instrumentation is also gathering what is described as "attitude data". It is interesting to note that they have adopted the term attitude and not altitude, which would seem more logical if attraction gravity generated by mountain ranges was actually "pulling down" on the satellites to generate their data sets. This attitude/angle/altitude data is not public facing at this time. References to this data play a large part later in this chapter.

The satellites' sensitivity to as little as 1/2 inch of water spread over 200 square miles when that mass is located at the surface lends logical support to the proof reasoning given later. Proximity to mass matters in this Concept Of Gravity.

What the GRACE data sets are not, and do not show, follows.

When reading popular news accounts about the GRACE Experiments, the headlines, descriptions and illustrations all proclaim that the GRACE Data Sets obviously and unambiguously show that the force of attraction gravity is the cause of the relative acceleration of the lead satellite when compared to its trailing partner as they approach a mountain range when orbiting the earth. The argument further declares that same attraction gravity paradigm explains why the lead satellite decelerates after passing over the mountain because the attraction gravity retards it. The attraction gravity paradigm is then repeated with the trailing satellite, leaving them in tandem order as they were before crossing over the mountain range.

Attraction Gravity is proven. You can shred this book…. so they infer!

But wait, don't fire up the shredder just yet. The GRACE Experiments' data sets do not actually say this.

Reviewers of the GRACE Experiments do accurately report that the GRACE/NASA/JPL website itself describes their data as representing gravity's affects where it is assumed/inferred that attraction gravity is greatest in power over mountains like the Andes and at it lowest over the ocean trenches and deep ocean "anomaly" areas. A four panel graphic on the GRACE-FO website titled "*How GRACE-FO Measures Gravity*" is described:
"*Panel 1: When both spacecraft are over the ocean, the distance between them is relatively constant.*
Panel 2: When the leading spacecraft encounters land, the land's higher gravity pulls it away from the trailing spacecraft, which is still over water.
Panel 3: Once the second satellite also encounters the land, it too is pulled toward the higher mass and consequently toward the leading spacecraft. As the lead spacecraft moves past the denser land mass, it is pulled back slightly by the higher gravity of the land.
Panel 4: When both spacecraft are over water again, the trailing spacecraft is slowed by land before returning to its original distance behind the leading spacecraft."
Therefor, the GRACE website itself and the current reviewers' interpretations of what that data assumes or infers is that the attraction/graviton gravity paradigm is proven. Given the exemplary NASA/JPL record over history, this is indeed unfortunate. Hopefully, these unwarranted assumptions will be edited out over the entire website.

The assumption that attraction gravity is real is not actually proven by the GRACE Data itself. The GRACE Datasets are limited to acceleration/deceleration of the two satellites as they relate to each other. Period. These relative speed changes do not describe or prescribe a reality that proves attraction gravity is real. Furthermore, making this unsubstantiated claim does not further our knowledge at all. The base data actually does enrich our lives as described earlier. The base data requires no embellishment.

The data sets only describe relative separation distances between two satellites traveling in tandem, one before the other, as they orbit about 300 miles above the earth. The data does not actually describe altitude variations where the satellites dove down towards the mountains because of the mountains' supposed attractive power nor show that they ballooned up over the oceans low gravity areas because they weren't being held down as much by the supposedly lessened attraction gravity force found below them. This is so even though the oceans are where some of the most extreme gravity effects are located. These "low gravity" anomalies are represented by an actual, literal, dent in the ocean over a vast expanse of the Indian Ocean that is 300 feet lower than the global average sea level. According to the attraction gravity paradigm, this is because of a major dip in Earth's attraction force in that location.

Surely this area's lack of attraction would not hold the satellites "down" very well compared to the mountain ranges that show very dramatic acceleration data changes. But, speed is the only data we have. Differences in speeds is all we can judge reality by. If the satellites speed up dramatically over mountains and slow down over the oceans generally, what can we infer? If we consider simplistic terms like the centrifugal force, these speed differences infer that the slow travel over 2/3rds of the planet would track a lower orbit and not a higher one. They would have to "cut the corner" on each orbit. Alternately, the notable accelerations over the mountain areas' third would certainly propel them up to an even higher orbit. This is opposite to the attraction/graviton paradigm predictions…. but does loosely fit this Concept Of Gravity.

So, the GRACE data sets are limited to showing the relative speed differences between the satellites and do not prove the attraction gravity paradigm. Unfortunately for this author on the short term, there are no public facing angle/altitude data sets.

The explanation of logical proofs supporting this Concept Of Gravity using the GRACE-FO datasets follows. The remainder of this chapter explains why this Concept Of Gravity implies that the attitude datasets, when made

available, will show anomalies contrary to the attraction/graviton paradigm.

The attitude data will show the satellites going ever so slightly up over mountains and ever so slightly down over the “ocean dents”. Their angle-anomaly is defining the opposite of what the attraction/graviton paradigm demands. The actual data does reflect what this Concept Of Gravity states is our quantum Twistor Field energy-pressure reality.

A synopsis of this Concept Of Gravity’s gravity-like effects due to its Twistor Field based pressure paradigm starts with observing that it appears indistinguishable from the attraction paradigm at our human level. In reality, the Twistor Field energy acts at the quantum level. The quantum level sensitivity of the Twistor Field Paradigm is described in the Basic Concept Chapter:
“*The energy flow near the local-mass diminishes with distance from that mass. More distant Twistors may still be turned and directing energy towards the local-mass even if only by slight and variable amounts. As energy demands become more localized and dense, this communal effort extends to committing Twistors well beyond the local-mass related area. In dense masses, this call to action can involve Twistors contributing for great distances resulting in planetary orbit effects as a major by-product. Locally, lower energy availability from Twistors surrounding a mass makes it a relatively lower energy-pressure area. A mass*

traveling through this local area is affected by this and this explains planetary orbit effects. The traveling-mass is able to access less overall energy from the Twistors closer to the local-mass and the traveller finds the energy availability even less per unit of "space" as it moves toward the local mass. To maintain its prior straight-line velocity, the traveling-mass has to accelerate in order to obtain its needed energy from this energy-desert area or accept that they remain trapped at the speed in orbit around the local-mass dictated by what they require to fulfill their Twistor energy needs."

This Concept Of Gravity describes what the GRACE Datasets have measured. The GRACE Satellites are actually measuring changes in the quantum based energy flow being continuously delivered to each and every atom of all masses that compose the Earth below them.

As the Basic Concept states, proximity of mass location changes to the satellites matters. The mass represented by 1/2 inch of water spread over 200 square miles helps to define the accuracy limitations of the experiments' technology. The same mass moved to under the earth's crust would not register readily usable data as do surface changes that are literally closer to the satellites.

The satellites are not really reacting noticeably to the relatively tiny mass increase of the entire "cone" of mass tapering down to the earth's center represented by the

energy needed to sustain that mass's existence. Another way of saying this is that GRACE is not as much measuring the mass of a pool of water 1/2 inch thick as it is measuring that mass's height/proximity relative to the satellites. How much energy is available to the satellites per unit of space where they are traveling is what they are measuring.

The forces being measured are the forces surrounding the satellites at any given moment as they orbit. They are measuring the environment they are passing through. They are measuring the energy density of the Twistor Field's contribution to maintaining the existence of all masses below them and the Field's support for all energy demands of all energy fields active below them as well.

Notably, this Concept Of Gravity describes energy pressures acting on average from all directions converging on the center of the planet except for dips in available energy in the "energy desert" area between the moon and earth as described in the Basic Concept Chapter earlier. This Concept infers that the GRACE_FO scientists should be able to identify this zone within their datasets. The previous chapter addresses the "from all directions" expectations as well.

Alternately, the attraction/graviton paradigm demands that the entire mass of the earth must be what the GRACE Satellites are measuring. Attraction paradigm defenders

state that under the satellites' 200 square mile area of notable change, all of the mass all the way to the center of the earth in a cone shaped volume, and all of the mass all of the way back out to the opposite side of the planet in an inverse cone of volume is what the satellites are affected by. Certainly, on one orbit or another, a plateau on a continent on the opposite side of the planet got a 1/2 inch of rain over 200 square miles while the satellites were orbiting over an ocean on the other side. That rainfall accumulation is not being recorded. In fact, this Concept Of Gravity infers that even a mountain range the size of the Andes will not be detectable in the data when on the opposite side of the satellites orbit as they pass over ocean areas.

Another way to describe this was provided by an observation offered in an article on the internet By Ethan Siegel. He observed that historical proofs/facts show that: *"If the Earth were perfectly flat and the acceleration, everywhere, were straight down, all projectiles would make a parabola. But for real projectiles the acceleration is always toward's Earth's center, which means the trajectory must be a portion of an ellipse, rather than a parabola."*

After reading this recently, this author had to ask: what did he just say? He appears to agree with this Concept's energy-pressure based paradigm and not the attraction based paradigm! The attraction/graviton gravity paradigm prescribes a parabola as most textbooks teach since the

mass of the entire Earth is supposedly “pulling down” on the projectile. The surface of the Earth would effectively appear flat to the projectile at all times as has been assumed for hundreds of years. Alternately, when the trajectory is calculated by applying reality as described by this COG’s paradigm, the ellipse answer is indeed factual.

Closing notes to this chapter include observing that GRACE-like data acquisition can offer a solution to the age-old 3 body challenge that is good enough for the life of our universe. Historically, all attempts to prove a solution to the orbits of three bodies fail at a point that mathematically can be thought of as a singularity or phase change or a Markov Math’s “no man’s land”. These impasse areas are too easily arrived at because real orbits of real, specific masses are not modeled.

If the 3 bodies in question were real and surveyed with the precision of GRACE-FO (or better) the data for calculating orbit deviations and mass influences on every rotation of every body would have such high accuracy that trillions of orbits could be reliably predicted before true, literal, quantum uncertainty or phase change math level influences would cause failure of the predictions.

Since this would cover the lifespan of most solar systems, it is argued that this should be good enough to be called a solution.

And finally, it is notable that high altitude air mass density variations are planned to be measured by the GRACE team as well. Given the airmass's proximity to the satellites when compared to the surface of the earth, the current data sets imply that the experimental sensitivity of GRACE-FO at ten times that of GRACE may be up to the challenge. Doing so will actually be describing the Twistor Field's energy flow at a very fine scale. This would be a watershed event in developing proofs and formal theories based upon this Concept Of Gravity.

Echoing the Grace Notes mentioned at the beginning of this chapter, a closing observation is offered. Writer Jackie Appel recently referred to the artist Van Gogh in an article about atmospheric turbulence where energy transfers from large scale patterns to smaller ones.

She described Van Gogh' Starry Night painting as capturing an "energy cascade" of that atmospheric turbulence per Kolmogorov's Theory. Indeed, GRACE-FO capturing Kolmogorov in action would be as artful as its Grace Notes comparison.

With this third edition offering, my job of presenting a new Concept Of Gravity framework on which to base new theories may be done. Hopefully I can now leave future discoveries and the creation of formal theories to the professional physicists and mathematicians.

FOURTH EDITION ADDITION
THE TIDE WILL TURN

The Third Edition Addition hinted that it may have been the final update to this book. But since that addition, what was described in the Paradigm Change Resistance chapter seems to be happening. Resistance to change is threatening to delay and discourage serious reviews.

This book was less verbose when presenting its basic concepts. The basic concept chapters read more like a scientific paper because that is what they were before expanding them into a book by offering additional conjectures. So, a more detailed, conversational description of how the basic concept works may be needed to encourage reviews.

Emergent phenomena and effects manifested by the basic concepts offered in this book were assumed to be obvious, at least to professionals. In hindsight, it appears some effects may not have been that obvious on a first read. So the goal of this chapter is to explain, in greater detail, how the basic principles of this Concept Of Gravity manifest emergent universe-wide effects. Galactic rotations, the Hubble Tension, void creation and the Twistor Field's involvement in manifesting all masses and forces are some topics that could benefit from this additional background explanation.

As hinted at by the sub-title of this chapter, the Earth's seemingly simple ocean tides are the subject of this chapter. This is because tides are a close-to-home, human-relatable topic. When explored in detail, tides can help to explain the basic tenets of this book's Concept Of Gravity well. Tides may also be the best vehicle to explore how this Concept Of Gravity explains the foundation of our Universe's Quantum Twistor Field based reality.

This chapter will explore how tides relate to this Concept Of Gravity and will give examples of how the Concept actually works in the real world. The plan is to present an explanation of this subject that shows how the Twistor Field's quantum level manifests emergent forces locally and at the galactic scale. In turn, that will help to explain how quantum forces ultimately produce the emergent effects that we call reality.

After reading this lengthy, verbose chapter, it will be obvious why this level of detail was not attempted throughout this book for each and every topic and research paper referred to in the body of text (let alone the list of 34 items restricted to the briefest of introductions). A single example of this restraint is when the text of this book said: "*….by creating an entire model universe made from a piece of whole cloth that Einstein wove himself*" the text purposefully did not do a deep dive into the historical subject of background-independence-

vs-dependence when evaluating the efficacy of competing quantum-field-related theories. A database the size of multiple textbooks exists that deeply explores why this singular issue of dependency is considered a go-no-go topic when evaluating theories. The choice to not dive into detail was because the only relevant point was that Einstein's "space-time" was made up and not real. This then set the stage to later establish that the Twistor Field is indeed the literal background of reality and not a figurative feature of a theory's calculations as debated by experts in that subject.

We will start by reviewing multiple classic attraction gravity paradigm explanations of why the Earth has ocean tides. You may be confused by this evolution-of-an-explanation. Then, other possibly confusing facts are explored including why this Concept Of Gravity's energy-pressure paradigm, at the galactic size and larger, can be ignored for our local ocean tide discussion. This is followed by a review of what being in a quantum field based reality really means including a description of the tiny scale of our underlying quantum Twistor Field. Finally, you will learn why the Earth's tides are better explained by this Concept Of Gravity's energy-pressure paradigm when compared to the classic attraction gravity paradigm.

First is the review of some of the many attraction gravity paradigm explanations for how tides are generated:

How tidal fluctuations that are similar on opposite sides of the planet occur at the same time, even when caused by a unidirectional force, has been danced around for many decades. A 1995 paper is still referenced on oceanservice.noaa.gov/education:
“The gravitational attraction between the Earth and the moon is strongest on the side of the Earth that happens to be facing the moon, simply because it is closer. This attraction causes the water on this “near side” of Earth to be pulled toward the moon. As gravitational force acts to draw the water closer to the moon, inertia attempts to keep the water in place. But the gravitational force exceeds it and the water is pulled toward the moon, causing a “bulge” of water on the near side toward the moon (Ross, D.A., 1995). On the opposite side of the Earth, or the “far side,” the gravitational attraction of the moon is less because it is farther away. Here, inertia exceeds the gravitational force, and the water tries to keep going in a straight line, moving away from the Earth, also forming a bulge (Ross, D.A., 1995).”

Apparently, this wasn’t the definitive answer. Other versions now include how the Moon and the Earth orbit around a common centre of mass inside the Earth, making the Earth rotate off-center. This off-center force is said to act equally everywhere on and inside the Earth. On the side opposite from the Moon, the Moon pulls on the solid Earth there more than its water, allowing a high tide to bulge out. This explanation invokes a reasonable

inertia/centrifugal force affecting viscous water masses on the side away from the Moon echoing the 1995 paper. It then cancels out that effect on the Moon's side with an opposing force that is conveniently equal. This opposing force is added only on the Moon's side because the extra off-center Earth mass is said to hold the water down against the Moon's extra pull via its attraction-gravity-caused centripetal force. This is how that version explains why tides don't bulge out more from the Moon's extra attraction. While the off-center rotation part is true, this explanation then fails to explain the generally uniform equatorial bulge of the whole planet. More on this comes in the next paragraph. To repeat, these explanations were developed to explain how a unidirectionally applied attraction force could result in omnidirectional-like tides that come and go at the same time on opposite sides of the planet.

Then came the more nearly correct explanation that refers to a global *Tidal Force* that would cause equatorial planetary bulging. According to the attraction gravity paradigm, the Tidal Force is what is left over after removing the moon's average gravitational pull on the whole planet from the moon's specific gravitational pull at each location on Earth from pole to pole. Don't worry if this seems confusing. It requires more explanation for all of us.

The attraction gravity paradigm further describes the Tidal Force as a tide-generating attraction-force that stretches a body along a line towards-and-away from the center of mass of another body due to variations in strength of the other body's gravitational field. Attraction starts its compression at the poles where it continues on adding more force towards the equator. Additionally, the unidirectional gravitational field exerted on one body by another is unequal over distance, causing the nearer side to be attracted more strongly than the farther side. That difference is considered positive on the near side and net negative on the far side. This is said to stretch the sphere at the equator in addition to compressing it starting at the poles.

Other explanations describe the Tidal Force as attraction gravity's Residual Force or attraction gravity's Differential Force or attraction gravity's Secondary Effect. There are many definitions and explanations offered to choose from.

Our discussion is further complicated by observing that the Tidal Force also causes other phenomena. These include solid mass tides like the bulging of the Moon's surface as the Earth rotates its varying masses nearer to it, tidal locking that stops the spinning of moons, and formation of ring systems like Saturn's. The Tidal Force is also results in collapsing orbiting bodies that exceed the Roche limit causing them to be spaghettified like comet Shoemaker-Levy 9 was.

We should refocus our discussion by observing that the effects these definitions are trying to explain are very real. Ocean tides are real. Shoemaker-Levy 9 did get spaghettified and hit Jupiter in pieces. Saturn does have rings. And, the Earth and the Moon do bulge out at their equators. The multiple attraction paradigm explanations for tides that rely upon a unidirectional force as described earlier appear to suffer when challenged to logically explain all the details of these very real omnidirectional-like, global effects. So, you may now be more confused than when you started reading this chapter.

But, since the Tidal Force itself is real, we should ask: What actually causes the Tidal Force to emerge? That is what we will investigate.

Could studying the actual, specific tide heights around the world help clear things up? Maybe only a little. Most major oceans have large semidiurnal tides (twice a day). But, the Caribbean Ocean, along with the shallow Gulf of Mexico and large lakes all have diurnal tides (once a day). Unsurprisingly, these diurnal examples have smaller tides as their individual mass size (depth/area) becomes smaller. Diurnal tides are generally described as topographically-trapped vorticity waves that react to changes in the local shorelines more than the original tidal oscillation itself. To complicate our tidal discussion even more, some large ocean basins with more normal semi-

diurnal tides overall, also have diurnal tides at select shorelines on the same ocean.

So, is there actually anything about measured tides that we can use with confidence that it is relevant to judging what causes tides in the first place? Yes. It is the Moon's influence anomaly relating to the Arctic Ocean.

Overall, the Moon's tidal influence alone does not equally dominate tides world wide, especially at the Earth's only polar ocean, the Arctic Ocean. (Antarctica is continental and not oceanic). While the Arctic is the smallest major ocean, it still has a large mass volume and is deep. But unlike the other major oceans, the Arctic has tiny tides of only a couple feet that occur only once per day. The Arctic's very small diurnal tides are the most notable outlier of the sun/moon collaboration on tides when comparing depths and total mass volumes. This infers that the Moon's influence on oceans has a more equatorial bias than the attraction paradigm would suggest. Notably, the attraction paradigm states that the Moon does directly, and strongly, influence the entire planet. The poles are included *explicitly* because the poles are where it claims its attraction force starts compressing the Earth en route to it manifesting the global Tidal Force. This does not appear to be true.

This Concept Of Gravity infers that the Arctic's lack of notable reaction to the Moon's influence is expected

because the Sun's size affects the entire planet more equally than the Moon's more equatorial influence. The Sun's energy-pressure shadow more equally affects our entire globe via its energy-pressure shadow even though the Sun's influence also lessens towards the poles as explained by the following Moon example.

The Moon literally casts a smaller, more equatorial, energy-pressure shadow that doesn't directly blanket the polar areas like it does the equatorial area. With greater affect than the Sun's influence, Twistor Field energy arriving from oblique angles outside the Moon's diameter is not blocked by the Moon. Energy-pressure from these angles can reach the pole areas unimpeded by the Moon and arrive down towards the equator as well. This means there are no finite latitude cut-off lines for the Moon's influence. The Moon's influence does not equally dominate all bodies of water globally as demanded by the attraction gravity paradigm.

What other complications should we consider? As was pointed out in earlier chapters, this Concept Of Gravity's energy-pressure differentials explain our galaxy's formation era and its evolved orbit speeds better than attraction gravity. Are we notably affected by this Milky Way Galaxy energy-pressure differential where the energy-pressure available to us on the galaxy's spiral plane is less than it is above and below the plane? It doesn't appear so. The galactic plane's energy-pressure

differentials are spread over such large distances that the differences after local equalizations are too subtle to notably affect the local energy-pressure availability surrounding our solar system. Overall, given our limited ability to measure or estimate it currently, we can ignore the galactic influence for this discussion on tides.

Additionally, our solar system's plane is approximately 60 degrees off from the Milky Way's plane. This indicates that during our solar system's formation era, the collision angles of the mass bodies were more dominant than ambient galaxy energy-pressures local to where they formed. The same goes for any orbiting group with odd rotation angles where some planets or moons are off plane from their hosts. So, unless overpowered by collision angles during its formation era, a system's local energy-pressure differences dominate. Proximity matters as described in the previous chapter.

So, now that a lot of confusing or conflicting data has been dealt with, how is this Concept Of Gravity's energy-pressure based paradigm more logical than what we have discussed related to the attraction gravity paradigm? How does the energy-pressure paradigm explain the very real Tidal Force and the many examples of its tidal effects described thus far?

The following is why this Concept Of Gravity's energy-pressure based paradigm is the more logical explanation of tidal forces:

We start all the way back to the beginning of our reality. We live in a non-zero quantum reality. Our reality is quantum via quanta jumping, quanta tunneling and quantum entanglement where quantum field wave-function-collapse (evolution/devolution) is the bottom-line, ubiquitous example that results in *us*. The beginning, or reason, for not just anything but for *everything* in our reality is truly quantum in its nature. In our Universe, you are either a quanta of reality or a zero of nothing.

That most of our constituent parts, like protons, are nearly permanently stable makes imagining the quantum size of our reality irrelevant to day to day life. We don't jump, tunnel or collapse. Nor does the ground we stand on. We are likewise unaffected and unfazed by many other quantum things described by quantum mechanics like how trillions of trillions of neutrino particles from our Sun pass through our bodies every split second. We remain blissfully unaware because the tiny scale of our underlying quantum reality is almost beyond human comprehension.

A review of relative scales may help us to comprehend. An atom of matter scaled up to the size of a domed football stadium would have its electron-cloud (a probability haze with no set, actual, location or orbit of an

electron particle) out around where the roof and walls would be and extending equally down into the ground. The inside is completely empty except for a baseball hovering where the center of the mid-field line would have been. The baseball represents a nucleus full of quarks making up the protons and neutrons. The baseball is essentially where all of the mass is, with almost all of that coming from continuous gluon energy contributions provided by the Twistor Field as described in this book. It should be easy to accept that a tiny neutrally charged neutrino particle, that is almost invisible even at this exaggerated scale, would statistically pass through unimpeded. It is much harder to imagine a scale where the neutrino itself is blown up to the stadium size or even bigger. Our quantum reality happens at what is called the Planck length. That size is about 200 million times smaller than a neutrino or a trillion-trillion times smaller than an atom. This is the size of our quantum-field reality. It is indeed hard to imagine that at our human scale.

Acknowledging that this size scale can involve interactions in ways that are not initially intuitive helps us to imagine how the Sun, Earth and Moon easily flow through the Twistor Field as explained in the chapters covering the basic concepts. This also helps us to imagine how the Twistor Field's energy flow easily passes through masses like the Sun, Earth and Moon unless and until a particle or force requires energy to sustain itself.

The Twistor energy used by the atoms comprising the Sun leaves less and less energy available for other masses the closer they get to the Sun. But the other mass can still get energy from the Sun's direction even if that energy had to pass through the Sun. There is only *less* energy-pressure available than what is available out and away on the opposite side of the Sun. The same applies to all mass bodies including the Earth and our Moon.

Most importantly for this explanation, the omni-directional energy pressure of the Twistor Field also comes from angles not on the solar system's plane. Notably, this energy arrives from above and below the solar system plane. And importantly, it arrives unimpeded. It is at a higher pressure and is made easily available to masses on the solar system plane because it did not have to contribute to any local masses recently. This means that it offers higher energy-pressure when compared to the lower-pressure areas downstream from other mass bodies on the orbital plane of the Sun. This causes the emergent Tidal Force due to the Sun's influence. The Tidal Force's polar oriented compression of planets, in turn, helps to cause Earth's ocean tides, Saturn's rings and all other Tidal Force related effects.

And so it is on the orbital plane of our Moon and Earth too. The Twistor Field's energy-pressure is lower between the Earth and Moon. But, oceans are not blocked by the Moon from getting any gluon energy for their atoms'

quarks. The available energy-pressure is only lessened on the orbit plane. This lower energy-pressure area is not just the volume between the two bodies. It extends all the way through the Earth including the near side and the far side as they pass through the Moon's more equatorially focused energy-pressure shadow twice a day. It also extends further out into space before it becomes more equalized out in the distance. The GRACE satellites orbit through the Moon's energy-pressure shadow so they are indeed measuring it as was pointed out in the previous chapter. Additionally, the more advanced GRACE-FO's laser technology may be sensitive enough to detect the polar energy bias coming from above and below the solar system plane.

This Concept Of Gravity shows that Twistor energy-pressure comes unimpeded from both above and below our Earth-Moon orbit, compresses the globe and causes the Tidal Force. Oceans on both sides of the Earth are equally provided their needed gluon energy and remain equally susceptible to inertia/centrifugal forces. Therefor, generally equal tides bulge out twice a day when the major oceans (other than the the Arctic) pass through the Moon's more equatorially focused energy-pressure shadow.

This Concept Of Gravity's energy-pressure differential above and below our Solar System's plane is the more logical reason for the Tidal Force effects that support

ocean tides as they are measured. It provides reasoning that is superior to the convoluted unidirectional attraction force explanations presented at the beginning of this chapter. It also better explains the other Tidal Force related effects, like the formation of Saturn's rings.

A summary review follows: The very real emergent Tidal Force is not caused because the Moon and Sun tug from only one direction. It emerges because the Twistor Field's energy-pressure arrives at our Sun-Earth-Moon orbit plane at a higher pressure from both above and below than it does in the orbit plane where masses compete by intercepting what they need before it travels on toward other masses. The emergent Tidal Force does indeed compress the Earth starting at its poles resulting in equatorial planetary bulging. The Tidal Force supports tides on both sides of the planet at the same time as they pass through the energy-pressure deserts of the Sun and Moon downstream in the solar system plane.

This Concept Of Gravity's emergent energy-pressure paradigm thus prescribes the emergent Tidal Force that in turn, supports our emergent, real ocean tides as they are influenced by the Sun and Moon energy-pressure shadows.

It is bottom line time now. It is time to decide. Was the old attraction force paradigm ever actually proven? Does it

even seem logical after considering its continuously evolving explanations?

This book's Concept Of Gravity is the more logical explanation. It should be researched by professionals so formal theories, supported by testable formulae, can be developed. This Concept Of Gravity infers that research should concentrate on logical geometric relationships based upon quantum field entanglement rather than continuing to invoke "time" as being a real force or thing. Research based upon any variation of the nebulous terms of "space" or "distance" will also be seen as supportive efforts at best. Instead, researchers should apply the more logical level-of-quantum-entanglement description given by Sean Carroll in this book's A List Of Facts To Ponder chapter item #34: "….*if the points are nearby, the fields will be highly entangled with each other. And if the fields are far away, the entanglement will be very, very low. …. we start with an abstract quantum wave-function. We don't have any such words like distance…. But we do have the word entanglement. We can figure out, if you divide up the wave-function into this bit and this bit, are those two bits entangled? …. So you can quantify the amount of entanglement between different pieces of the wave-function. And then, rather than saying the more distance, the less entanglement, you turn that on its head. You say…. I'm going to define something called the distance. And it's a small number when the entanglement*

is large, it's a big number when the entanglement is small."

The professionals on the GRACE team have the best chance to be the first to publish a new, formal, energy-pressure gravity theory based upon replicable experimentation since they control their own datasets. But, string theorists or quantum field mathematicians may beat them to it.

Recent examples of good research include Carolina Figueiredo's Associahedron that, without considering space-time at all, accurately describes known particles like the bosons at the heart of this Concept's explanation. (This led to a correction to the Preface And Premiss chapter in the first addition where the Amplituhedron was said to calculate particle interactions perfectly). However, she *was* inspired by Nima Arkani-Hamed's Aplituhedron and both geometrics were influenced by Richard Feynman's Diagrams and both rely upon Roger Penrose's Twistors for their origin story. A final example offered here is Francesca Ferlaino's recent paper on quantum vortexes in superfluid-supersolids. All of these are examples of research that will lead us to new theories.

This is how it should be. "Amateurs" question and challenge, but rarely prove. This Concept Of Gravity is left to the educated and dedicated.

AFTERWORD

Hello, this is the author, Steve, speaking first-person. I admit to being a non-scientist as explained in the following About The Author chapter. But while I admit to lacking a formal physics education, I do not admit to being either mentally challenged or delusional.

This leads me to point out that most of what I discussed in this book can not be considered as having never before been thought of in history. I say this because I have based this Concept Of Gravity on synthesizing what I have read over the past thirty years or so. And since I am not delusional, I recognize that I, myself, was not among the many professional scientists who created the very news that I have referenced in this book.

So why do I want other people to read this book? It is because I think my energy-harvesting, energy-pressure-differential gravity replacement, its related quantum entanglement extension and a few of my cosmology observations might actually be considered novel conjectures. If they are researched and proven by degrees, these conjectures will certainly drive many discoveries that will hopefully benefit us all in the future.

That future is my wish.

Examples of the genius minds that will actually create the formal theories required for proof include: Ed Witten, whose command of String Theory Maths are beyond my personal capacity to absorb. Sir Roger Penrose, who is the supreme polymath genius of my lifetime. And Sean Carroll, who offers non-scientists, like me, access to the quantum complexities of our Universe.

Professionals like these have to have thought about almost all of this book's content at some time and in some forum before me. They certainly have read what I have read…. or written it themselves!

So, why have these professionals not yet published papers similar to what I presented in this book? I am certain that it has to do with them having reputations to protect and their adherence to high professional standards.

They would not presume to publicly voice challenges to any established Einstein-level theory before producing air tight proofs based upon unchallenged experimentation. But I do not have to adhere to their professional standards. So I think these classical theories need to be challenged, now, because over a century of research has produced too many more-than-open-to-doubt-outcomes.

ABOUT THE AUTHOR

At the time of writing this book I am 72 years old. The love of my life, Janet Louise, has been my partner in life for over fifty years. Our two sons Rory and Adam, along with our grandson Cooper, provide us happiness and fulfillment in our waning years.

I worked 33 years as a professional firefighter with the USA State of California agency known as CalFire. I held positions throughout the state. I promoted six times up through the ranks from chopping brush and squirting water as a Seasonal Forest Firefighter to achieving the rank of Division Chief commanding forces spanning multiple counties of the State. I performed every service a firefighter is called to do.

I worked on every kind of emergency and disaster from chemical spills and plane crashes to earthquakes and floods. The 15 years spent as an Air Attack Officer, being paid to fly over the coastal redwood forests of northern California, was almost surreal at times.

I attended a California Community College for two years but do not have a college degree. In the 1970s, my profession was not yet an accredited four-year major unto itself.

In the 1980s, after completing instructor training, I did acquire a Lifetime Limited Service Teaching Credential from the California Community College system allowing me to teach Fire Science in general and more specifically, Wildfire Management.

I have no competency in mathematics. High school algebra has a fleeting, tenuous foothold in my memory. The same can be said for formal education on all hard sciences.

My deep interest in physics, and more specifically the Quantum Field Theory, came in retirement. I have chosen to read many physics books written for non-scientists only because I found the subjects interesting. I have been able to read these books because, unlike almost all of my professional peers, I am still alive. Most of my peers have died form various cancers. We were allowed to retire in our fifties in recognition of these statistics.

I did lose multiple years of mental capacity due to various medical challenges. But, over the last two decades in particular, I have been able to absorb a lot. Also, I subscribe to Physics news websites and have set up news feed options to curate physics related news.

Now, I will specifically address the subject of me writing this Quantum Physics book. Why? It is because I am too

uneducated to know how wrong I could be. Also, I do not care what fall-out comes from publishing this. I realize this sounds rather flippant. It is true nevertheless. I cannot suffer professional embarrassment since the subject matter is self-admittedly not my profession and I admit to having no formal education on the subjects. What professional physicist would consider my denigration to be a feather in his cap?

I then had to ask myself if, subconsciously, I had actually chosen to challenge Relativity in the first place? I really did not choose to so. And I have done so reluctantly since. It is simply that over the past few decades of reading physics related news I noticed a recurring pattern of articles pointing out that a century of research has not discovered gravitons nor proved that gravity is an attraction force nor discovered dark matter nor dark energy. I saw, repeatedly, that the old attraction-based gravity paradigm had been given dedicated, all-hands-on-deck study, to no avail. All of this supported the background logic driving my thinking.

Then, the discovery of the Amplituhedron about ten years ago reawakened and supported my previous, innate rejection of time even being real. This further supported the logic driving my ideas.

I was then left in a limbo where I had to ask myself a question. If not space-time or gravitons, then what is

acting like attraction gravity? I had no answers to begin with. But, it was a different question I asked myself that sparked the creation this book.

Separate from any thoughts of gravity, one day in November 2023, I asked myself how is it that gluons holding together quarks are seriously described as being able to access a seemingly unlimited amount of energy on demand to counter forces trying to pull the quarks apart. Penrose's Twistors supported by a universe wide, string theory based, Quantum Twistor Field was my answer as presented in this book.

Then I realized that *things,* like quarks and their gluons, have to access outside energy, continuously, as they travel the cosmos. Soon after that, I happily realized that this fact then provided the basis for the rest of my Concept Of Gravity including its quantum entanglement and cosmology.

In the end, even if my fate is to be be dismissed as being woefully incorrect by most physicists, odds are that I will be dead before peer-reviewed and proven theories could formally paint me as being, at best, a bad science fiction writer. So, until then, disparaging comments by lone actors on the short-term will be no threat to me.

I have looked death in the eyes nine times in my life, checked out convicted felons to work on fires, and have

witnessed the human condition in every possible variation of injury, despair and death. So, an educated critic coming after me verbally would not even be mildly amusing.

Seriously now, I trust that the professionals will let me down gently. And I wish to thank those who read this book for giving me their time and consideration. These are gifts that I appreciate.